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Chief Executive Officer

October 17, 2014

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Second District

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Third District

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Fourth District

MICHAEL D. ANTONOVICH
Fifth District

To: All Department Heads

From: William T. Fujioka
Chief Executive Officer

ROADMAP TO A SUSTAINABLE WASTE MANAGEMENT FUTURE

On April 22, 2014, a Motion was approved by Supervisors Antonovich and Knabe instructing the Department of Public Works (Public Works), in coordination with the Chief Executive Office; the Office of Sustainability; the Departments of Regional Planning, Internal Services, Public Health, Health Services, and the Sheriff; and in consultation with the County Sanitation Districts, to establish a Working Group to develop a Roadmap for the Unincorporated Communities of the County to achieve a Sustainable Waste Management Future (Roadmap). The County Arts Commission, the Departments of Beaches and Harbors, Parks and Recreation, and Fire were added as the Working Group was being organized to contribute to the development of the Roadmap. The motion directed Public Works to submit the Roadmap, including recommended strategies and disposal reduction targets, to the Board within six months.

The Working Group determined that the Roadmap should be expanded to include County Operations. Appendix C of the Roadmap is attached and provides you with further details of the proposed initiatives for County Operations. Upon approval of this Roadmap by the Board, implementation plans will be developed for County Operations which will incorporate specific details pertaining to feasibility, costs, proposed funding sources, and corresponding timelines. Your department's participation in the prospective planning and implementation processes will be requested to help shape the future of solid waste management by the County, and contribute to sustainable operations at our facilities.

The Roadmap is scheduled to be presented to the Board on October 21, 2014. The Roadmap (Attachment I), and project fact sheet (Attachment II) are attached for your review. If you have any questions, Pat Proano, Assistant Deputy Director at Public Works can be contacted at (626) 458-3500, or pproano@dpw.lacounty.gov.

WTF:RLR
DSP:BK:acn

Attachments (2)

c: Each Supervisor

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ATTACHMENT I



Roadmap to a Sustainable Waste Management Future

*Waste Diversion Strategies in the Unincorporated Communities of
Los Angeles County, Throughout the Region, and at County
Operations*

October 2014

Prepared by:



A Trash Solution for a Green Evolution



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In partnership with:

Board of Supervisors
Chief Executive Office
County Sheriff's Department
Department of Beaches and Harbors
County Fire Department
Department of Health Services
Internal Services Department
Department of Parks and Recreation
Department of Public Health
Department of Public Works
Department of Regional Planning
County Arts Commission
County Office of Sustainability
Sanitation Districts of Los Angeles County

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Executive Summary

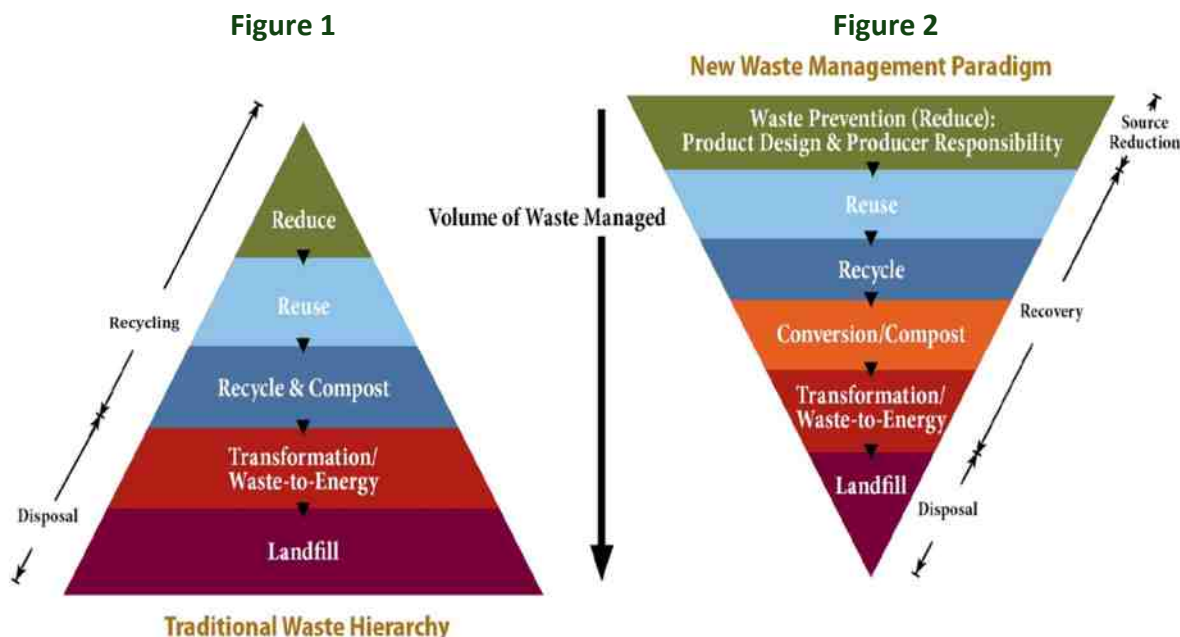
On April 22, 2014, the Board of Supervisors adopted a motion directing the development of a Roadmap to achieve a Sustainable Waste Management Future for the County unincorporated communities. The Board directed the Department of Public Works to prepare the Roadmap in coordination with the Chief Executive Office (CEO); the Office of Sustainability; and the Departments of Regional Planning, Internal Services, Public Health, Health Services, and the Sheriff's; and in consultation with the County Sanitation Districts. Accordingly, the Sustainable Waste Management Future Working Group (Working Group) was formed to collectively develop the Roadmap. The Working Group determined that in addition to unincorporated communities, the Board should consider planning for two other focus areas: Regional/Countywide and County Operations.

The Working Group identified four broad strategies for the three focus areas: (1) Programs and Services, (2) Measuring Results, (3) Facilities and Infrastructure, and (4) Outreach and Education. These four strategies establish a framework for the implementation of specific initiatives associated with the County Unincorporated Communities' residential and commercial sectors, the Regional/Countywide infrastructure, and County operations, which include County-owned and/or operated facilities and offices as well as County-sponsored events.

The County Unincorporated Communities have already achieved and surpassed California's 50 percent waste diversion mandate. Nevertheless, landfill space in Los Angeles County is decreasing and regulatory drivers are leading the County to initiate a comprehensive plan for a waste free future. The County must be proactive and develop innovative policies and procedures for managing waste that further reduce the County's reliance on landfills. To be Sustainable, we must be able to meet our current needs without compromising the ability of future generations to meet their needs. Achieving a sustainable waste management future takes a fundamentally new approach, which involves placing a greater emphasis on maximizing the benefits and use of materials over disposal. This in turn transforms waste from a liability into a resource, and creates a new vision to significantly reduce, and someday, eliminate waste.

The new, sustainable approach involves rethinking the manner in which the County approaches waste management. It also means rethinking what is characterized as waste and which materials might be suitable for reuse and recycling. A **Traditional Waste Hierarchy** (Figure 1) seeks to implement waste reduction measures, reuse practices, recycling and composting techniques, and waste-to-energy processing to handle a large portion of the typical waste stream. Even when this is done effectively, however, a large volume of waste is still disposed at landfills. By inverting the Traditional Waste Hierarchy and establishing a **New Waste Management Paradigm** (Figure 2), a greater emphasis is placed on maximizing the benefits and use of materials over disposal. This creates a new vision to significantly reduce, and someday, eliminate waste. As a result, an increasing amount of materials previously characterized as waste will be reduced, reused, or recycled, thereby minimizing the volume of materials remaining for disposal. An effective shift to the New Waste Paradigm for each of the three

focus areas, as well as for the four strategies and specific initiatives that are targeted for implementation, is a key guiding principle of the Roadmap.



The intent of the Roadmap is to guide the County in implementing the four strategies and supporting initiatives to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed of at landfills. In doing so, the County hopes to achieve the following intermediate and long-term disposal reduction targets:

- 80 percent diversion from landfills by 2025
- 90 percent diversion from landfills by 2035
- 95+ percent diversion from landfills by 2045

Under each of the focus area strategies, the Working Group identified specific recommended initiatives, which will need to be further expanded in detailed implementation plans. Since the purpose of the Roadmap is to provide general strategies for the County to achieve a sustainable waste management future, the recommended initiatives identified in the Roadmap are not intended to be all-inclusive; and while some can be acted on right away, others will be implemented over a longer timeframe.

The Working Group recommends that, upon approval of the Roadmap by the Board, the County initiate a stakeholder process that will vet each of the initiatives from this Roadmap and solicit additional suggestions and feedback from residents, businesses, public agencies, the waste industry, environmental organizations, and any other interested stakeholders. We recommend developing comprehensive and detailed implementation plans with a budget, timeline, and staffing plan as appropriate for each focus area. Sharing the Roadmap will also allow other entities to develop their own plans and strategies to reduce waste generation and disposal.

Introduction

Board Motion

On April 22, 2014, the Board adopted a motion directing Public Works, in coordination with the CEO; the Office of Sustainability; the Departments of Regional Planning, Internal Services, Public Health, Health Services, and the Sheriff's; and in consultation with the County Sanitation Districts, to establish a Working Group to develop a Roadmap for the Unincorporated Communities of the County to achieve a Sustainable¹ Waste Management Future. The motion directed Public Works to submit the Roadmap, including recommended strategies and disposal reduction targets, to the Board within six months.

Focus Areas

The Working Group determined that given the County's solid waste management responsibilities, including oversight for disposal capacity and regional diversion programs, a truly sustainable waste management system by necessity should encompass more than the unincorporated communities that are interspersed throughout the County. Therefore, a broader Regional/Countywide concept was developed. Additionally, it was essential to consider the footprint of County operations at both the unincorporated area and Regional/Countywide level. This resulted in three recommended focus areas: (1) County Unincorporated Communities, (2) Regional/Countywide, and (3) County Operations.

Under State law (Assembly Bill 939, 1989, as amended), each County is responsible for identifying a minimum of 15 years of estimated disposal capacity on a countywide basis. Providing regional leadership on sustainability is important to assist the County in continuing to assure the long-term waste disposal needs of the County. To account for population and economic growth as well as diminishing landfill capacity over time, implementation of effective policies aimed at reducing waste generation and boosting diversion from landfills is critical to meeting this goal. Since the Unincorporated Communities account for only ten percent of the County's total population, encouraging other jurisdictions and public agencies to make use of the recommendations developed in this Roadmap will further reduce Countywide waste disposal, and thereby reduce the need for future regional disposal capacity.

It is also important to improve coordination between County departments for waste reduction and recycling programs, clearly identify roles and responsibilities, and promote a consistent message in County operations, where feasible. In this way, the County can demonstrate sustainable practices at County operations and provide a model for County constituents.

¹Roadmap terms are defined in Appendix A: Definitions

Strategies

The Roadmap's focus areas include strategies and initiatives to reduce waste and divert material from landfills. The initiatives include a mix of "upstream" activities that identify ways to keep materials out of the waste stream entirely and "downstream" activities that sustainably manage materials that are currently going to landfills. Another critical strategy involves outreach and education related to creating a sustainable waste management future. The strategies also provide methodologies to measure the results of the programs and services, facility and infrastructure improvements, and outreach and education opportunities. The four strategies of the Roadmap are:

- Strategy 1: Programs and Services – *Develop, enhance, and expand high-quality programs and services to provide for solid waste management needs while striving to reduce the amount of waste generated and disposed of at landfills.*

Quality programs and services are essential components to reducing waste. The County has initiated and maintains a number of highly successful and award-winning waste reduction, recycling, composting, conversion, and special waste programs and services. These programs and services have helped the County unincorporated communities meet and surpass the State's 50 percent waste diversion mandate. In order to end dependence on landfilling in the long-term and thereby ensuring a sustainable waste management future, the Roadmap's initiatives need to be enhanced and expanded while simultaneously identifying opportunities to develop new programs and services. The programs and services initiatives will be broken down and discussed for each of the focus areas described above.

- Strategy 2: Measuring Results – *Use benchmarking, goal-setting, monitoring, and evaluation to measure the effectiveness of programs and services, facilities and infrastructure, and outreach and education in order to strive for continuous improvement and encourage innovation.*

Measurement is a key to success. It can provide understanding of how effectively and efficiently programs and services, facilities and infrastructure, and outreach/education are meeting waste reduction objectives. A series of initiatives designed to integrate both evaluation and continuous improvement mechanisms will be recommended for each focus area.

- Strategy 3: Facilities and Infrastructure – *Incorporate sustainability practices and develop more advanced waste management facilities and infrastructure in a fiscally, socially, and environmentally responsible manner.*

An efficient waste diversion system is essential to implementing sustainability practices and meeting the State’s 75 percent “recycling” goal. In order to divert hundreds of thousands of tons of materials currently going to landfills each year, new infrastructure and facility improvements will need to be implemented to collect, process, and divert this material to beneficial uses. This will require identifying opportunities for improvements of existing and proposed facilities and infrastructure. Additional infrastructure will also require sustainable funding streams identified by local governments and businesses, and ultimately require support from customers, ratepayers, and taxpayers in order to be successful. Each focus area has unique facility and infrastructure challenges and requirements, which will be highlighted by the recommended initiatives in the Roadmap.

- Strategy 4: Outreach and Education – *Incorporate proactive and appropriate communication tools in order to engage and empower stakeholders and further promote a sustainable waste management future.*

Education and communication are critical elements of a successful endeavor to achieve a waste-free future. Educating diverse communities will require an innovative message in multiple languages. Additionally, it is critical to educate and engage the business community, the waste industry, and other stakeholders as well as County employees in order to implement sustainable practices. The initiatives recommended for education and outreach will provide a system of continuing outreach and education.

Each focus area contains elements of all four strategies. Within each strategy the Working Group identified specific recommended initiatives that will be further reviewed, assessed, and expanded in more comprehensive implementation plans. To achieve a sustainable waste management future, the identified initiatives were designed to build on the success of existing and proposed programs and services, integrate both evaluation and continuous improvement mechanisms, support the development of necessary facilities and infrastructure, and provide effective public outreach and education.

Roadmap

The Roadmap lays out the general framework for the strategies and initiatives that the County can implement to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed of at landfills and actuates sustainable waste management practices, in order to reuse and divert materials that are currently discarded for their highest and best purpose, such as the creation of renewable energy. Upon approval by the Board of this Roadmap, implementation plans will be developed for each initiative, which will incorporate specific details on feasibility, costs, proposed funding, and timelines.

Interdepartmental Sustainable Waste Management Future Working Group

The Interdepartmental Sustainable Waste Management Future Working Group was initially comprised of representatives from the following County departments and special districts:

- Chief Executive Office
- County Sheriff's Department
- Department of Health Services
- Internal Services Department
- Department of Public Health
- Department of Public Works
- Department of Regional Planning
- County Office of Sustainability
- Sanitation Districts of Los Angeles County

In consideration of facilities that they operate and/or assist in managing and their role in implementing sustainability initiatives, the Department of Beaches and Harbors, County Fire Department, Department of Parks and Recreation, and County Arts Commission were also invited to participate in the Working Group. Representatives from a number of Board offices also participated and contributed to the efforts of the Working Group.

Public Works is the lead County agency advising the Board on waste management issues. It is a regional leader in resource conservation and environmental protection. Public Works and the other members of the Working Group met monthly to discuss and develop the Roadmap within the timelines established by the Board. In addition, the Working Group created four subcommittees based on the four strategies to develop the recommended initiatives for incorporation into each of the Roadmap's focus areas.

Background

The State of Waste in 2014

Approximately 2.8 million tons of trash is generated annually in the unincorporated communities of the County. Approximately Seventy percent of these materials are diverted from landfill disposal through a number of existing waste reduction, reuse, and recycling programs. These programs are summarized in Appendix B.

Los Angeles County is home to a diverse and complex system of solid waste infrastructure. Given that the forthcoming revised Los Angeles County Countywide Siting Element² extensively addresses the current state of disposal options both in and out of the County, further discussion of disposal will not be addressed in this Roadmap. This Roadmap is a fundamentally different approach that describes visionary goals for keeping materials out of the waste stream in the first place and identifying solutions for recovering resources and commodities from the materials that must be managed in a sustainable waste management system.

The solid waste industry in California continues to undergo many changes. A number of drivers are prompting these changes, including diminishing landfill capacity within the County and new legislative mandates from the State. In addition, there is a strong desire to continuously improve the quality of life and preserve the environment for current communities and future generations.

It is worth noting two of the State's landmark environmental laws that have a significant impact on the current and future State of our waste management system. The first is Assembly Bill 32 (2006), which requires every sector of the economy to reduce greenhouse gas (GHG) emissions to 1990 levels by 2020. A substantial portion of the materials disposed in landfills are organic, and when organic material decomposes in landfills, methane, a potent GHG, is generated. Landfills, as one of the largest potential anthropogenic sources of methane, are under increased scrutiny to reduce GHG emissions. As such, the State is moving towards regulatory and legislative measures to reduce the disposal of organics in landfills. In addition, Assembly Bill 341, adopted in 2011, established a policy goal that not less than 75 percent of the waste generated in the State be source reduced, recycled, or composted by 2020.

These policy drivers will change the way in which solid waste has been traditionally managed. Since the State has not provided many tangible programs or mechanisms through which to implement these new policy changes, the County of Los Angeles is taking the initiative to

² A copy of the current draft Countywide Siting Element can be downloaded and reviewed at <http://dpw.lacounty.gov/sitingelement/>

prepare for the impending changes at the local level by anticipating the implications, developing proposals that are feasible, and collaborating with a multidisciplinary stakeholder base to vet the proposals.

County Unincorporated Communities

More than 1 million people call the unincorporated communities of Los Angeles County home. The County Unincorporated Communities comprise 114 communities spread over more than 65 percent of the County's area – approximately 2,650 square miles – and represent approximately ten percent of the total population in Los Angeles County. It also represents a culturally and ethnically diverse community. The Board is the governing body responsible for establishing policies and regulations for the County unincorporated communities.

In the County Unincorporated Communities, the County provides solid waste collection services through a diverse and complex system that includes:

- Residential Waste Collection Franchise System: Public Works administers 21 exclusive residential waste collection franchises that serve approximately 600,000 residents. Each franchise waste hauler provides waste collection, recycling, and green waste services to customers under an agreement with the County.
- Garbage Disposal Districts: Public Works administers seven Garbage Disposal Districts that provide waste collection, recycling, and green waste services to approximately 380,000 residents and businesses within the Districts. The services are provided by private waste haulers under contract with the County. Property owners within the Districts pay for these services through an assessment on the property tax rolls.
- Non-Exclusive Commercial Waste Collection Franchise System: Public Works administers a commercial franchise system that provides waste collection and recycling services to over 20,000 businesses and multifamily residential complexes outside the Districts. The services are provided by 46 private waste haulers under a nonexclusive franchise agreement with the County.
- Open Market System: Approximately 100,000 residents of County Unincorporated Communities in the northern portion of Los Angeles County continue to operate under an open market system for waste collection. Under this system, residents contract directly with the waste haulers for waste collection, recycling, and/or green waste services.
- Self-Haul: Residents and businesses also have the option to haul their own waste directly to publicly or privately owned processing and disposal facilities. Certain categories of businesses, such as landscapers, are more likely to self-haul.

The materials collected by the private waste haulers under each of the above collection systems are taken to various publicly and privately owned processing and disposal facilities. Currently, waste haulers have the discretion to determine which facilities to direct the waste and materials to, and their decisions are made primarily based on economics. The County also offers curbside recycling, green waste collection, and many other innovative programs to encourage the four R's (Reduce, Reuse, Recycle, Rethink), as well as regulate solid waste management and disposal operations at solid waste facilities in the County Unincorporated Communities.

Recognizing the largest contributors to the solid waste disposal system for the County Unincorporated Communities will help identify where new programs and services, facilities and infrastructure, and outreach and education are required. The County will develop a more comprehensive understanding of their waste management practices as they relate to County Unincorporated Communities, evaluate options for waste diversion, assess program costs, and evaluate how options are implemented. The three aspects of sustainability - Environment, Economy, and Society - will be applied to assess the feasibility of these new initiatives.

Regional/Countywide

Public Works, as the lead County agency advising the Board on regional waste management issues, has a Countywide responsibility to oversee certain waste management programs. For example, the County of Los Angeles operates the largest household hazardous/electronic waste management program in the nation, and leads a nationally recognized research and development program for state-of-the-art technologies to convert municipal solid waste into electricity, green fuel, and other useful products. This has allowed the County to meet and exceed the State's 50 percent waste diversion mandate. The County is committed to providing high-quality solid waste management services that enhance the quality of life for County constituents and protects the environment and its resources. Therefore, the Roadmap contains a discussion of strategies and initiatives that could be applied on a regional or Countywide basis, including regional programs and services, facilities and infrastructure, and outreach and education needs.

County Operations

The Working Group is recommending that the Board consider piloting sustainable programs and services, facilities and operations, and outreach and education throughout County operations, as well as at County-sponsored events. The County could identify and develop effective pilot efforts focused on diverting waste from landfills while enhancing other sustainability goals. Such efforts provide opportunities to demonstrate programs that may be able to be implemented by the residents and businesses served throughout the County

Unincorporated Communities, as well as provide case studies for other departments and municipalities in the region. The following sections of the Roadmap describe the recommended strategies and initiatives in greater detail, including programs and services, facility and infrastructure improvements, measurement techniques, and outreach and education activities for County departments to implement, thereby paving the way towards a sustainable waste management future.

Alignment with Current County Priorities

The strategies identified in this Roadmap align closely with Los Angeles County's adopted plans and priorities, as well as other sustainability efforts, including (1) the Los Angeles County General Plan Update; (2) the Los Angeles County Strategic Plan, Goal #2: Community Support and Responsiveness; (3) the final draft Community Climate Action Plan; and (4) the Public Works Strategic Plan.

1. As a long-range planning policy document, the Los Angeles County General Plan Update³ establishes future growth and land use development patterns for the County Unincorporated Communities. The Draft General Plan contains goals and policies that guide the provision of public services and facilities, including waste management in conjunction with future growth and land use development. Specifically, the Draft General Plan calls for "adequate disposal capacity and minimal waste and pollution."⁴ The Roadmap is consistent with the Draft General Plan goals and policies pertaining to waste management, as the Roadmap aims to minimize waste generation, enhance diversion, and promote conversion technologies. Furthermore, the Draft General Plan organizes the County into 11 Planning Areas, which make up the Planning Areas Framework. The purpose of the Planning Area Framework is to provide a mechanism for local communities to work with the County to develop plans that respond to their unique and diverse character. The Roadmap will build on the Planning Areas Framework established by the Draft General Plan to target public outreach efforts and waste studies.
2. The County Strategic Plan Goal #2, Strategic Initiative 5, Environmentally Sustainable Practices identifies a specific focus area promoting net-zero waste in order to "Optimally manage and reduce solid waste by diverting from waste stream and maximizing recycling opportunities."
3. The Final Draft of the County's Community Climate Action Plan (July 2014) includes Goal SW-1: "For the County's unincorporated areas, adopt a waste diversion goal to comply

³ At the time of preparation of this Roadmap, the proposed General Plan Update, also known as the Los Angeles County General Plan 2035, was being reviewed and considered by the Regional Planning Commission.

⁴ Goal PS/F 5, Chapter 13: Public Services and Facilities Element, Los Angeles County General Plan Revised Public Review Draft, 7/10/2014.

with all state mandates associated with diverting from landfill disposal at least 75% of the waste by 2020.”

4. Public Works’ Strategic Plan identifies Sustainability as a key value, and under the Waste Management Core Service Area, Public Works strives to “lead, inspire, and support communities toward a healthy, waste-free future.”

Additionally, the Board established the County Office of Sustainability to respond to legislation, regulation, and policy related to climate change and to serve as a central hub for coordination of energy efficiency, conservation, and sustainability programs within the County, its facilities, and the region.

Priority Issues

Certain issues are a major focus of the Roadmap due to the proportion of the waste stream potentially affected or the impacts those issues have on sustainability and the quality of life of residents in the County. This section provides a context for the Focus Areas, Strategies, and Initiatives described in the Roadmap with additional details regarding the impetus for the Roadmap's recommendations.

Facilitating Sustainable Practices

Cost and convenience are two of the most significant drivers of waste generation and disposal. Easy access to affordable products and materials is good for the economy while inexpensive and convenient curbside trash collection and free public trash receptacles have protected the environment from dumping and littering. They have also made it easy to dispose materials that might otherwise be put to productive use through reuse, recycling, composting, or conversion. The County has made great progress in recycling and other waste diversion options; for example the 3-bin system of trash collection that includes curbside recycling and green waste collection is now nearly universal throughout the County Unincorporated Communities. Nevertheless, the County can and should do more to make recycling at least as easy as throwing something away.

Changing markets and new products make it difficult to be sure what discards are recyclable, compostable, or must be disposed. A possible solution could be to implement a policy where most materials collected at curbside are first processed at a Materials Recovery Facility (MRF). In this way, MRFs can adjust their processing to recycle more materials in the future as recovery technology improves. Other alternative trash collection methods, such as reducing collection frequency, adjusting the number of bins per customer, or implementing a volume- or weight-based system for trash collection fees, are all options which have been implemented in other jurisdictions to increase the diversion of waste.

Another challenge facing some recycling and waste diversion programs is an unsustainable funding source, particularly those programs funded by the Countywide Solid Waste Management Fee, which is assessed on waste disposed at landfills and transfer stations. This means that as waste disposal decreases, fees collected and funding for diversion programs will decrease proportionally. To avoid this reduction spiral, new incentives will need to be identified to achieve waste reduction goals and the true cost of recycling will need to be identified and addressed. The challenging reality is that increased processing of materials will require additional funding. Ultimately, we must ensure adequate, sustainable funding is available to support an effective regional waste management system.

These changes cannot be considered lightly, as they can potentially have significant impacts on residents, businesses, and waste management companies, including haulers and solid waste facility operators. However, it is likely that such changes will be necessary to significantly increase diversion of materials from disposal, especially in light of pending State legislation and other factors which are already driving change. It is, therefore, crucial to conduct an evaluation of the current waste collection system for possible changes and improvements before implementing major changes to the current waste collection system. This Roadmap recommends exploring the feasibility of all options with all interested stakeholders in a thoughtful and transparent process and identifying the right combination of initiatives, including changes in collection, processing, and funding, that will best align with the sustainability goals of the County.

Local Green Business and Market Development

Additional materials pulled from the waste stream will result in more commodities for the marketplace. Partnerships with State and local economic development organizations to promote the development of recycling and remanufacturing businesses in the unincorporated communities will help create new markets for recycled materials while also spurring job creation and economic development. CalRecycle estimates California needs 44 million tons worth of remanufacturing infrastructure in-State to sustainably manage recyclables. At present, existing infrastructure is handling a little over 2 million tons of recyclable materials.⁵

There are a variety of materials that are remnants of advanced recycling methods and conversion technologies, such as compost, crushed glass, aggregate, slag, and ash. Cost effective and beneficial reuse options are not yet available on a local and widespread basis for some of these materials. Opportunities may exist to create partnerships between County facilities and local businesses that recover and reuse these materials, as part of the State's Recycling Market Development Zone program or other mechanisms.

Waste Prevention and Source Reduction

The U.S. Environmental Protection Agency (USEPA) defines source reduction as activities designed to reduce the volume or toxicity of waste generated, including the design and manufacture of products with minimum toxic content, minimum volume of material, and/or a longer useful life.⁶ Source reduction is fundamentally different from the other waste management approaches. It is at the top of the County's resource management hierarchy because it is considered to be more effective and yield the highest benefits from an

⁵ 2013 CalRecycle AB341 White Paper – Recycling, Reuse, and Remanufacturing

⁶ USEPA, Source Reduction Program Potential Manual, <http://www.epa.gov/osw/conserve/downloads/source.pdf>

environmental, economic, and social stand point. Source reduction preempts the need to collect, process, and/or dispose of materials by preventing their generation up front.

A useful mechanism for preventing waste generation and improving sustainability within many municipalities has been product bans and disposal bans. For example, in 2009 Los Angeles County adopted an ordinance banning single-use plastic carryout bags at supermarkets, pharmacies, and other stores. Although it took adjustment at first, customers quickly adapted to using far more sustainable reusable carryout bags, keeping billions of single-use bags out of the waste stream and from inadvertently becoming litter and harming our environment.⁷

Product Stewardship/Extended Producer Responsibility

Product Stewardship, also referred to as Extended Producer Responsibility (EPR), is a policy approach in which manufacturers assume a shared responsibility for the impacts and management costs of their products at the end of life. This shifts end-of-life management and financial responsibilities from local government to the manufacturers and consumers of products. This will require significant collaboration with the business community to explore more innovative and efficient approaches in package manufacturing.

The growing trend of “lean operations” is showing that businesses can reduce the amount of raw materials needed, which ultimately leads to decreased costs and waste reduction. Manufacturers are also often able to manage the end-of-life impacts of their products much more efficiently than local governments. For example, products could be carefully disassembled by manufacturers to refurbish working parts in the manufacturing of other products. In addition, providing a price signal⁸ creates an incentive to make improvements in product design that “designs the waste out” so that products can be readily reused, repaired, reconditioned, or recycled. In addition to the design of products, innovation in packaging has a tremendous potential for improvement. For example, Walmart redesigned their footwear packaging to reduce 400,000 pounds of solid waste in just 11 months, as well as decrease their costs by 28 percent.⁹ To ensure a level playing field for businesses, California may need to pass legislation that places greater emphasis on producer/manufacturer responsibility for the environmental impact of certain products and their corresponding waste byproducts.

Encouraging EPR in manufacturing consumer products is crucial since approximately 75 percent of our country’s waste stream comes from manufactured products – from common household items, such as magazines, prepared food, or toys to household hazardous waste products like

⁷ www.AboutTheBag.com

⁸ Price signal is information conveyed via the price charged for a product

⁹ <http://corporate.walmart.com/global-responsibility/environment-sustainability/packaging>

electronics, fluorescent lights, batteries, paint, and pesticides¹⁰. Packaging represents about 65 percent of household trash and about a third of materials disposed at an average landfill,¹¹ and out of every \$10 spent buying goods, \$1 (10 percent) is for packaging that is thrown away. Boosting the percentage of packaging that is more efficient, reusable, and/or recyclable not only reduces waste but could also reduce costs for manufacturers.

Furthermore, many of these materials contain toxic substances, such as heavy metals that present a threat to public health and safety when improperly disposed. In 2006, universal waste (such as fluorescent lights and batteries) was banned from California landfills, and in 2008 sharps (such as needles) were added to that list. However, local government solely instituting product or disposal bans cannot address the issue of problematic materials. Manufacturers should be encouraged to partner with local government on educating consumers and other business manufacturers on alternative packaging options and providing convenient collection options if there is to be success in diverting certain problematic materials from the waste stream.

Organic Waste Management

In 2013, the County Unincorporated Communities sent approximately 764,000 tons of waste to landfills.¹² Based on the percentages determined from the County's 2006 waste characterization studies¹³ performed on the County Unincorporated Communities, approximately 500,000 tons of that waste annually, equivalent to 1,631 tons per day (tpd), would be classified as "organic waste" as listed in Table 1 below, excluding "other waste material." The "organic waste" accounts for over 66 percent of the entire unincorporated communities' wasted materials.

¹⁰ California Product Stewardship Council, *Model Staff Report (2/1/2013)*, <http://www.calpsc.org>

¹¹ UCLA Zero Waste Plan, July 2012

http://cms.ipressroom.com.s3.amazonaws.com/173/files/20125/UCLA_Zero_Waste_Plan_Final.pdf

¹² 2013 Annual Report on the County unincorporated areas Source Reduction and Recycling Element

¹³ Los Angeles County baseline waste characterization study, 2006

Table 1: Waste Characterization for County Unincorporated Communities, 2013

Material	Percentage	Tons
Paper	20.4%	155,856
Leaves and Grass	5.3%	40,492
Prunings and Trimmings	3.0%	22,920
Branches and Stumps	1.7%	12,988
Lumber	10.3%	78,692
Food	16.7%	127,588
Other Organics	9.3%	71,052
<i>Other Waste Material</i>	33.3%	254,412
Total	100.0%	764,000

These categories of organic waste are classified as biogenic (originating from living organisms), which is different from biodegradable organic waste, which is a subset of this category, as well as nonbiogenic organic waste (e.g., plastics) that is exclusive of this “organics” category. The biodegradable organic waste stream, consisting primarily of green waste and food waste, amounts to roughly 27 percent of the entire waste stream. Food waste makes up a large percentage of each of the commercial, multifamily, and single-family sectors’ waste streams, and therefore, an important aspect in organic waste diversion. In the commercial sector, food waste alone comprises as much as 23 percent of the waste stream. Diverting this volume of material from landfill disposal is a formidable challenge to overcome, potentially necessitating hundreds of millions of dollars in new infrastructure.

The State of California is committed to diverting organic waste from disposal. The 2014 AB 32 Scoping Plan Update includes the following provision:

“ARB [CA Air Resources Board] and CalRecycle will lead the development of program(s) to eliminate disposal of organic materials at landfills. Options to be evaluated will include: legislation, direct regulation, and inclusion of landfills in the Cap-and-Trade Program. If legislation requiring businesses that generate organic waste to arrange for recycling services is not enacted in 2014, then ARB, in concert with CalRecycle, will initiate regulatory action(s) to prohibit/phase out landfilling of organic materials with the goal of requiring initial compliance actions in 2016.”

This effort is channeled through AB 1826, legislation which requires a business that generates a certain threshold of organic waste per week to arrange for organic waste “recycling services” and requires local jurisdictions to implement an organic waste recycling program to divert organic waste from landfills. This means a lot more organic waste will need to be managed and processed in a different way.

Green and food waste can be used to create energy through anaerobic digestion. Anaerobic digestion uses naturally occurring microorganisms to break down organic materials and produce biogas, a mixture of methane and carbon dioxide. The biogas can be combusted to produce renewable electricity, cleaned to pipeline natural gas standards, or further processed into renewable natural gas fuel.¹⁴ Remaining residuals can be a feedstock for composting. Unfortunately, there are currently no anaerobic digestion facilities in Los Angeles County that are open to the public. According to the California Energy Commission, there are 132 biomass-to-energy facilities in the entire State. This includes 22 digesters and 27 thermal biomass facilities.

Existing green waste infrastructure is limited to chipping and grinding, small scale composting, and transfer operations. The combined capacity of these operations in the County is only 3,783 tpd, which is far less than what is needed. Additional information about organics processing facilities in the County can be found at the following link:

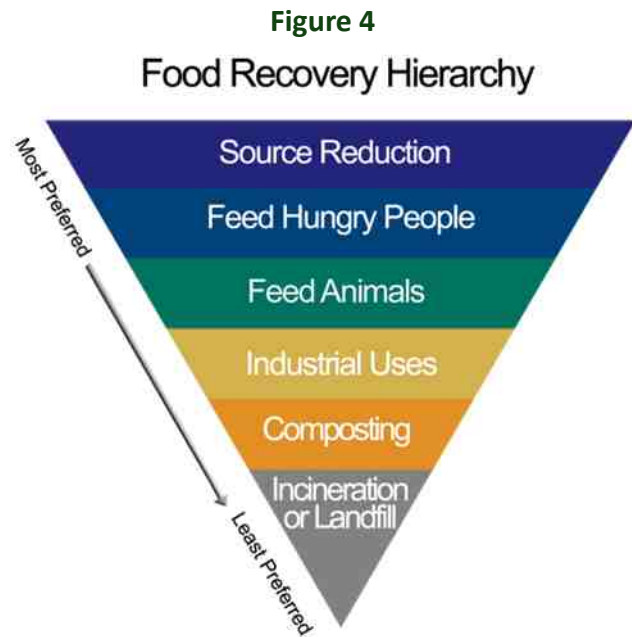
<http://dpw.lacounty.gov/epd/swims/ShowDoc.aspx?id=450&hp=yes&type=PDF>

Several jurisdictions, including the County, have investigated the feasibility of siting regional or community-scale anaerobic digestion facilities. To manage the volume of waste discussed above, it would take seven facilities the size of the new anaerobic digestion facility in San Jose (250 tpd), which cost approximately \$40 million to build. Concerns regarding high costs, waste-shed restrictions, adequacy of available materials, collection infrastructure, environmental impacts, and market availability for compost continue to be challenges in developing this industry in the County. Despite these challenges, anaerobic digestion remains the most widely-accepted conversion technology by environmental groups and California regulators.

Although AB 1826 requires businesses to separate organic waste and send it to “organics recycling” facilities, there is insufficient funding available to develop the infrastructure needed to process this waste. For instance, CalRecycle is launching a \$30 million grant program, that includes organics facilities as well as recycling facilities, as a competitive grant for the entire state. Additional funding opportunities or incentives for infrastructure are absolutely crucial in order to manage the substantial quantities of organic waste currently sent to disposal.

Another option to address food waste is the implementation of the Food Donation Recovery Outreach Program (Food DROP). Some food waste is still edible, yet according to the LA Regional Food Bank, 1.7 million people in Los Angeles County are struggling with not having enough food. Public Works is developing Food DROP to simultaneously divert safe and clean food from landfills and feed hungry low-income residents.

¹⁴ Harvest Power, <http://www.harvestpower.com/capabilities/technology/anaerobic-digestion/>



The Food DROP is a dynamic program to match food donors (restaurants, supermarkets, etc.) with receivers (food banks, soup kitchens, nonprofits, etc.) in the County, in an effort to feed hungry people with the excess food that businesses would otherwise dispose at landfills. Through Food DROP, the County would address the top two tiers in the U.S. EPA's Food Recovery Hierarchy: Source Reduction and Feed Hungry People (see Figure 4).

Food waste that cannot be shared through Food DROP should be collected and processed through anaerobic digestion and/or composting facilities. Green materials used at County landfills for alternative daily cover will need to be similarly managed.

Through the implementation process, the County intends to continue to engage potential project developers and waste haulers in determining specific ways the County can advance the development of sustainable anaerobic digestion projects in the region.

Conversion Technologies

Public Works is actively promoting the development of solid waste conversion technologies as a way to diversify solid waste management practices. Now more than ever before, jurisdictions, such as the County, are looking at waste as a resource rather than "trash."

A few jurisdictions in California including San Jose, Sacramento, Perris, and Santa Barbara have projects in development; however, the path to project development is fraught with many challenges. Currently, the largest obstacle is a permitting process that is more costly, time intensive, inconsistent, and confusing than necessary, largely due to out-of-date and even inaccurate language in State statute and regulations. Over a dozen project developers are interested in hosting projects in Los Angeles County, once regulations establishing a clear permitting pathway are worked out.

The County believes that advancements in clean technology need to be reflected in State statute and regulations to create a level playing field for project developers while protecting public health and safety and the environment. Together with the California State Association of

Counties, the County sponsored Senate Bill 498, authored by California State Senator Ricardo Lara (D-33). This bill includes conversion technologies in the definition of biomass conversion. Traditional biomass conversion has been limited to direct combustion of organic materials (wood, lawn and garden clippings, agricultural waste, leaves, tree pruning, as well as nonrecyclable paper) to generate heat and electricity. Adding conversion technologies to the biomass definition allows for cleaner and more efficient technologies to be used in processing these materials to create not just heat and electricity but also clean and renewable low-carbon fuels. It is a very small but positive step forward in facilitating the development of conversion technologies in California.

The County is recognized as a leader in evaluating and promoting the development of conversion technologies, and continues to encourage the development of commercial scale conversion technology projects within the County. The County will need to determine what resources and support are necessary to help spur the establishment of both public and private conversion technology facilities locally.

Household Hazardous and Electronic Waste

The County operates a substantial household hazardous waste (HHW) and electronic waste (E-Waste) collection program. Through strategic partnerships, the County coordinates over 60 mobile events with participation from over 47,000 households each year, funds the operation of nine permanent collection centers, and provides convenient additional drop-off locations for batteries, sharps, and pharmaceuticals throughout the County. Approximately 11 million pounds of HHW and E-Waste¹⁵ are collected on an annual basis in the County of Los Angeles excluding the City of Los Angeles, making this program the largest and most highly regarded in the nation.

According to the U.S. EPA and County data, permanent collection centers require a larger upfront investment than one-day collection, but they may reduce costs per participant in the long run¹⁶, therefore the Working Group, and in particular Public Works as the administrator of the Countywide HHW Program, views the addition of new permanent collection centers as a high priority for County residents to provide the most convenient and cost-effective system for providing residents opportunities to safely manage their HHW and E-Waste. In addition, HHW and E-Waste are prime candidates for EPR policies, since they are more toxic, difficult to manage, and cannot be disposed at traditional disposal facilities.

¹⁵ 2013-2014 CalRecycle Form 303 Household Hazardous Waste Collection

¹⁶ EPA Household Hazardous Waste Management "A Manual for One-Day Community Collection Programs, <http://www.epa.gov/osw/conserve/materials/pubs/manual/r92026.pdf>

Construction and Demolition Debris

Construction and demolition (C&D) debris consists of materials like lumber, drywall, metals, masonry (brick, concrete, ceramics, plasters, etc.), carpet, plastics, pipe, rocks, dirt, paper, cardboard, or green waste related to land development¹⁷. The Board adopted the C&D Recycling and Reuse Ordinance on January 4, 2005. County Code Title 20.87 & 22.52 now requires local C&D debris recycling for building, demolition, and grading permits in County Unincorporated Communities. Projects must divert 50 percent (65 percent for specified projects) of C&D debris generated and document compliance on completion. Given that, roughly 26 percent (by weight) of the County's total disposed tonnage is made up of C&D material¹⁸, more can be done to ensure that C&D materials are kept out of landfills. Also, there are a number of facilities that will process and divert C&D debris within the County, recovering this material and offering it for beneficial activities within the County, and the rates to send this material to such C&D processors is often lower than landfill disposal rates. As a result, establishing higher minimum diversion rates for C&D materials will likely save project developers money while benefiting the environment and the local economy. Private sector participation will be critical in identifying ways to incentivize the recycling and reuse of C&D materials.

Resource Recovery Centers

A significant portion of materials disposed in the unincorporated area of the County are from self-haul customers at landfills and transfer stations. Resource Recovery Parks or Resource Recovery Centers are places where materials can be dropped off for donation or buyback and provides a place to co-locate synergistic diversion-related activities, including reuse, recycling, composting, processing, manufacturing, and distribution. The Resource Recovery Center concept has been evolving naturally at landfills and transfer stations. Examples of these facilities can be found at the Cold Canyon Landfill in San Luis Obispo County; the City of El Cerrito Recycling Center in the East Bay; and the Center for Hard to Recycle Materials (CHaRM) in the City of Boulder, Colorado. These facilities have continued to provide additional recycling opportunities for self-hauled loads. A Resource Recovery Park can make the landfill or transfer station more sustainable by diversifying revenue, conserving capacity, and extending the useful life of those facilities.

“Re-stores” are businesses that sell used or donated surplus building materials. The re-store may be affiliated with a deconstruction entity that provides recovered building materials or receive donations from builders, contractors, brokers, businesses, and/or households that are

¹⁷ California Department of Resource Recycling and Recovery, <http://www.calrecycle.ca.gov/condemo/>

¹⁸ Los Angeles County baseline waste characterization study, 2006

remodeling their facilities, such as homes, hotels, apartments, or office buildings. This is a great way to put old but still useful cabinets, appliances, flooring, and other building materials to good use and keep them out of landfills.

Emergency Management and Regional Debris Management Planning

The County's unique geography makes it susceptible to various forms of natural disasters including earthquakes, landslides, wildfires, mudflows, and tsunamis. These natural occurrences have the potential to create large quantities of debris, which must be managed in order to maintain public services during and immediately following an emergency. Public Works is working with other County departments to develop the Operational Area (County, 88 cities, and all special districts in the County) Debris Management Plan (DMP) to identify agency roles and mechanisms to collect, stockpile, and recycle debris, to the extent feasible. It also ensures that the removal process for the debris is conducted in an efficient, economical, and environmentally beneficial manner while considering the safety of the public and personnel. The DMP will be consistent with the existing policies and guidance provided by the County, State, and Federal Emergency Management Agencies for removal and management of disaster-related debris.

Assessment and Evaluation

Identifying the largest contributors to the waste disposal system will help shape where resources and efforts are needed to achieve the County's disposal reduction goals. This will enable the County to maximize short-term waste diversion while prospective strategies and initiatives that will take longer to develop are being researched and developed, and appropriate funds are pursued and secured.

Understanding the unique disposal characteristics of the various sectors of the economy is also important for the County on a continuous basis. Commercial, institutional, industrial, residential, multifamily, self-haul, and drop off are subsectors that identify where various waste streams are generated and where existing and new programs could be initiated, expanded, modified, or eliminated. Each sector has unique waste management practices that need to be examined to identify waste reduction opportunities and determine options for waste diversion processing.

The prevailing practices of local markets, and differences between various markets, are also important to consider in a county as large and diverse as the County. A starting point is to understand the proportion of waste from open market haulers, who are not required to provide waste collection data, versus registered haulers, who are required to provide data. Recognizing the areas where the County has control of the waste stream, such as within Garbage Disposal Districts or residential franchise areas, will assist in determining the level of influence the County has in implementing new programs. Within each registered and

unregistered hauling type, there will be a need to assess the types of waste sectors that are captured in the disposal stream.

Waste characterization studies are another tool for assessing and evaluating our waste diversion efforts. Waste characterization studies help determine how various sectors within the County are disposing of their waste and whether waste diversion programs are being utilized. Waste characterization assessments can be conducted for subsectors, such as businesses, multifamily residents, and single-family residences. Public Works is in the process of initiating a major waste characterization study for the County Unincorporated Communities, which is projected to be completed by 2016. Public Works will examine the solid waste composition and generation rates, and the highest and best use alternatives for diverting the major components of the waste stream. A large-scale study may be needed every five years, with smaller individual assessments on a more frequent basis, including waste surveys at County facilities. The most recent Countywide baseline waste characterization study¹⁹ was conducted in 2006. Since that time, new regulations have been passed that affected current waste characteristics, including Assembly Bill 341 which requires mandatory recycling in businesses and multifamily housing units.

Finally, having a better understanding of disposal and diversion quantities will assist the County in assessing the success of existing programs, exploring and identifying other waste reduction programs, evaluating the feasibility of implementing them in the County, and assessing how these new programs would assist in achieving the County's overarching goals. Each new program or policy recommended through the Sustainable Waste Management Roadmap should be tailored to location and customer and coupled with clear, meaningful, and achievable performance measures. With an ongoing baseline of disposal and diversion measurements, we can assess whether different programs and policies are effective.

Existing County programs and sustainability efforts, as identified in Appendix B, need to be evaluated for effectiveness, costs, and determination of whether they should be maintained at their current resource expenditure level, expanded and/or modified, or eliminated. Some existing County programs, such as C&D Debris Diversion, are already being measured but will need to be described using metrics that will assist in comparison with other programs and the overall Roadmap goals.

There is a strong likelihood that, during the course of evaluating existing programs, the need for additional information will become apparent. Appropriate protocols will be developed to address these data gaps. This is likely to include, but will not be limited to, identifying resource requirements to obtain data, consulting with key stakeholders to determine the viability of protocols, and determining level of accuracy that can be expected.

¹⁹ Los Angeles County baseline waste characterization study, 2006

Outreach and Education

Given that unincorporated communities are spread throughout the County, the Working Group recommends establishing a broad communication plan focusing at the community scale. Identifying regions that include communities with common demographics, natural resources, and similar commercial and industrial businesses will help target messaging more effectively. The regions selected will be determined during the implementation process, but will consider the 11 Planning Areas identified in the County General Plan. Focused and relevant outreach can be conducted throughout these regions, encouraging maximum participation in the community. Effective public education will cultivate behavioral change that will lead toward a waste-free, safe, and healthy future for County communities. A comprehensive Action Plan will support the County's sustainable waste management priorities, such as ensuring communities understand the safety and relevance of conversion technologies.

Feedback from key stakeholders will be crucial to developing an effective implementation plan. Empowering stakeholders to provide input to the County's planning process not only facilitates a transparent process and a spirit of partnership, it also allows for the inclusion of diverse perspectives and backgrounds and will result in more effective programs and policies. Tapping into their knowledge and experience early in the planning process should enable the County to facilitate the highest degree of collaboration and cooperation when programs and policies are subsequently implemented. Stakeholders could also be helpful in identifying any potential adverse or unanticipated impacts as well as corresponding mitigation measures. The inclusion of diverse perspectives will help ensure that recommended strategies are environmentally, socially, and fiscally responsible. In addition, utilizing the abundant forms of social media is fundamental to promote the Roadmap, solicit feedback, and educate constituents to gain the maximum success and impact.

Artists and arts organizations are also key to the creative problem solving and public outreach necessary to achieve a waste-free future for the County. More than 3,000 nonprofit arts organizations and 150,000 artists serve the region. In addition to cultural production and economic impact, their work spans a growing range of real world situations, such as social services, education standards, public participation, and the quality of the built environment. Artists and arts organizations can advance the goals and objectives of the Roadmap, in its overarching strategies as well as in tactics for inspiring targeted audiences and addressing issues. The arts should be fully integrated into key County initiatives tackling intractable social challenges, such as sustainable solid waste management. The Los Angeles County network of artists and arts organizations can be a resource for public outreach programs, and develop campaigns for behavioral change and collaboration with unincorporated area communities and interested stakeholders.

Our Sustainable Waste Management Future

To achieve a sustainable waste management future, it is important to understand the terms “sustainable” and “waste.” “Sustainable development” is generally understood as development that meets current needs without compromising the ability of future generations to meet their own needs. Many organizations also highlight the three aspects of sustainability - Environment, Economy, and Society - as shown in Figure 3. Another way to express this concept is maintaining good care of people, planet, and prosperity in perpetuity. Waste, on the other hand, is defined as a material eliminated or discarded as no longer wanted, useful, or required. The notion of waste is at odds with the ideal of sustainability. Our vision for a sustainable waste management future identifies materials that were formerly considered waste as a resource rather than a liability, with the goal of one day eliminating waste in the unincorporated communities of the County.

The County aspires to be a regional leader in sustainability and adopt policies that support regional collaboration and strengthen private enterprise. In 2005 and 2006, the County conducted a comprehensive waste characterization study of the waste generation, disposal and diversion practices throughout the County Unincorporated Communities, including the residential and commercial sectors. At that time, the waste characterization found that the County Unincorporated Communities generated approximately 2.9 million tons of materials, equivalent to 14.8 pounds per resident per day (ppd), and 1.45 million tons were being disposed at landfills, resulting in a diversion rate of 50 percent, compared to a 1990 baseline. Currently, the County Unincorporated Communities dispose approximately 764,000 tons in landfills each year, or roughly 4 pounds of waste per person per day. The last official state approved diversion rate for the County Unincorporated Communities was 54 percent in 2006. The diversion rate is calculated based on the difference between estimated generation and measured disposal. Waste generation can be estimated based on the CalRecycle Adjustment method, which is a formula that accounts for population changes and economic conditions, or on a method based on the per capita generation estimate which only accounts for population. Both methods provide an estimated diversion rate of approximately 70 percent for 2013. This estimated diversion rate may be primarily attributable to the economic recession that began in December 2007, rather than to significant increases in recycling or other waste diversion activities. Therefore, Public Works will conduct a waste characterization study in the near future to determine an accurate diversion rate that reflects the success of the County’s waste diversion programs.

In developing the Sustainable Waste Management Future Roadmap, the Working Group prioritized minimizing dependence on landfilling and waste exportation, since landfill capacity within the County is diminishing over time and, therefore, unsustainable. The following

disposal reduction targets were identified by the Working Group as achievable milestones towards a sustainable waste management future:

- Diverting 80 percent of our waste from landfill disposal by 2025, equivalent to disposing no more than 3 pounds per person per day.
- Diverting 90 percent of our waste from landfill disposal by 2035, equivalent to disposing no more than 1.5 pounds per person per day.
- Diverting 95+ percent of our waste from landfill disposal by 2045, equivalent to disposing no more than 0.75 pounds per person per day.

The purpose of these ambitious targets is to set the bar high, providing the County with forward-looking goals to maintain momentum providing a crucial framework for the development of necessary infrastructure and services to achieve a truly sustainable waste management future. These goals are based on the per-capita disposal and generation figures established during the most recent waste characterization study completed by the County in 2005, which is the most complete and accurate estimate of total waste generation the County has conducted to date. The challenge with using this estimate as a baseline is that this study relies on an extrapolation of total waste generation from 2005, however actual waste generation fluctuates based on a number of factors, including population, economic activity, and adoption of various waste reduction and sustainability measures over time. As a result, although the disposal reduction targets established above will undoubtedly guide us towards a more sustainable waste management future, additional measures of success will be crucial to develop. In addition, a sound measurement system will need to be in place with consistent monitoring. These and other measures are discussed in more detail under *Strategy 2: Measuring Results*.

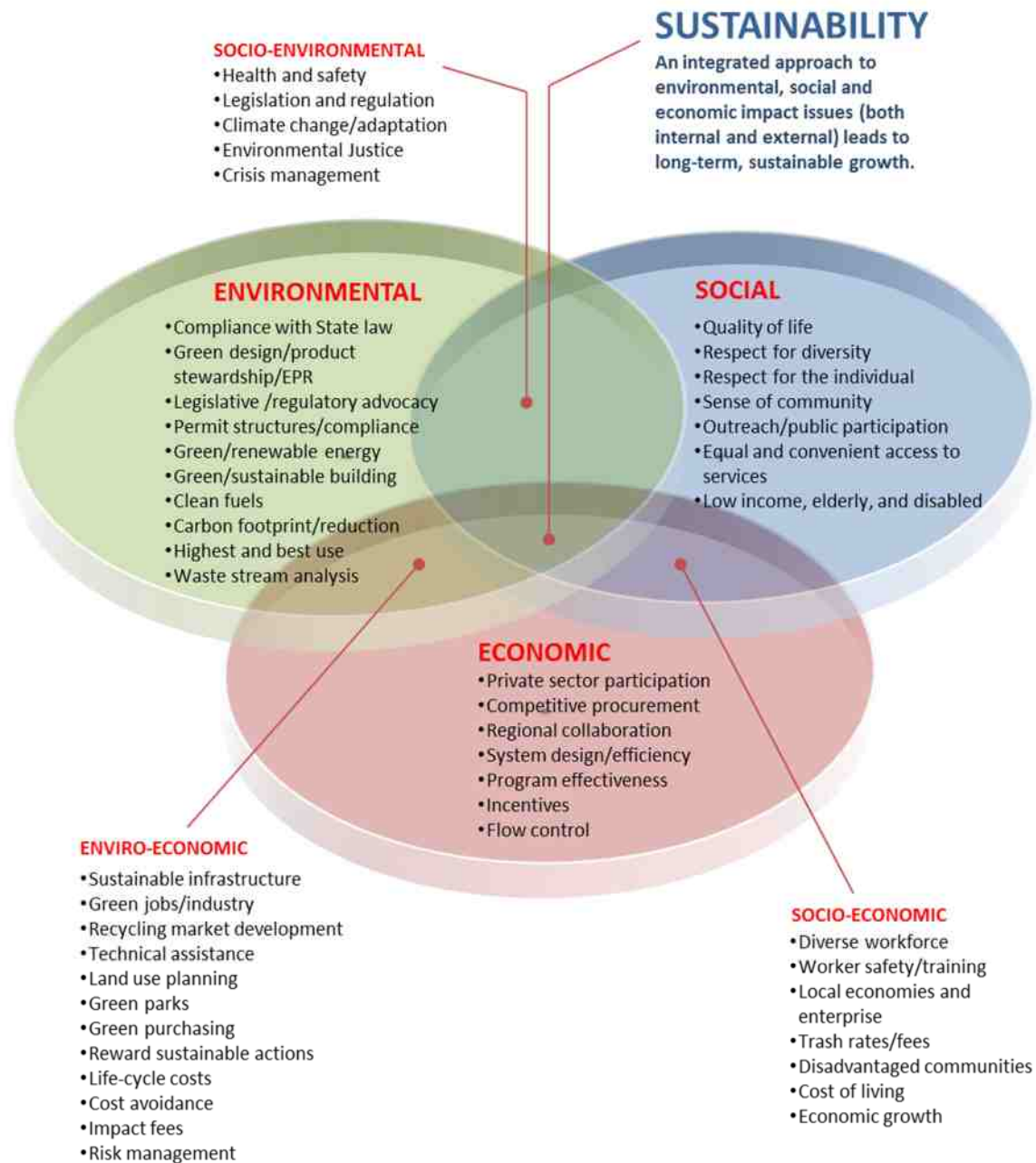
Beyond the disposal reduction targets, this Roadmap has the following overarching goals, directly related to the three aspects of sustainability:

- First, foster an environmentally sound waste management system that is focused on reducing waste generation and disposal. This system will make the best use of natural resources, support the production of recycled-content products, and expand local and sustainable infrastructure.
- Second, foster a system that is cost effective and efficient. Working collaboratively with regional partners and private enterprises, identifying new opportunities for innovation and green job creation.
- Third, foster a system that is responsive to the needs of the community by implementing programs and policies that are feasible, measurable, and meaningful for rate payers. A sustainable waste management system should empower residents and businesses to be successful while building a sense of community.

This Roadmap is intended to outline a recommended approach to establishing a sustainable waste management future. The Working Group recommends that, subject to approval by the Board, more detailed implementation plans be developed for each initiative, which will incorporate specific details on feasibility, costs, proposed funding, and timelines. It is also recommended that the Roadmap be shared with residents, businesses, public agencies, the waste industry, environmental organizations, and other interested stakeholders to solicit additional suggestions and feedback.

Figure 3

A Sustainable Waste Management System



The Roadmap - Focus Areas, Strategies, and Initiatives

COUNTY UNINCORPORATED COMMUNITIES

Strategy 1: Programs and Services

Develop, enhance, and expand high-quality programs and services to provide for solid waste management needs in the County Unincorporated Communities while striving to reduce the amount of waste generated and disposed of at landfills to the reduction targets identified in the Roadmap.

Initiative (A) - Institutionalize Waste Prevention and Source Reduction in County Unincorporated Communities

- ❖ *Develop a model purchasing guide/policy for businesses (e.g., fork dispensers instead of individually wrapped forks, recycled content office paper).*
- ❖ *Explore and, if feasible, develop and implement more aggressive reuse programs.*
 - ◆ *Consider policies to discourage single-use water bottles in favor of reusable water bottles;*
 - ◆ *Research the feasibility of assigning redemption fees on items other than existing CRV beverage containers and expanding the list of CRV beverage containers to boost recycling and reuse (e.g., glass wine or liquor bottles).*
 - ◆ *Encourage local businesses to charge deposits to promote reuse of certain products (e.g., reusable milk bottles).*
 - ◆ *Enable and encourage reusable to-go containers.*
 - ◆ *Evaluate the most effective methods for implementing and enforcing policies such as bans, requirements, or ordinances, and determine the impact on residents and businesses.*
 - ◆ *Promote reuse and repair for residents, businesses, and nonprofits with repair workshops (Repair Café and iFixit models); web-based directories for sharing reusable materials, such as LACoMAX, the County's free materials exchange network; thrift stores and repair shops; reuse depots like East Bay Depot for Creative Reuse; and/or Tool Lending Libraries²⁰.*

²⁰ Tool Lending Libraries http://en.wikipedia.org/wiki/List_of_tool-lending_libraries

Initiative (B) - Advocate for Extended Producer and Manufacturer Responsibility in County Unincorporated Communities

- ❖ *Establish a working group with businesses, waste haulers, and other interested stakeholders to develop solutions that promote EPR while ensuring materials continue to be collected and managed safely and efficiently.*
- ❖ *Explore the feasibility of establishing a County EPR ordinance for materials, such as pharmaceuticals, needles, carpet, mattresses, and battery management, while ensuring collected items are properly managed in accordance with Federal, State and local laws using environmentally sound practices.*
 - ◆ *Consider legal requirements for producers to phase out toxic materials or to take back these products at the end of life.*
- ❖ *Support voluntary take-back initiatives. Encourage and incentivize businesses and institutions to take back designated products and packaging they sell and are sold by others in their area (especially items that are toxic in their manufacture, use, or disposal, and/or are not currently reusable, recyclable, or compostable locally).*
- ❖ *Explore and implement, if feasible, a Green Business Certification that incentivizes local unincorporated area businesses to reduce their waste in operations and products.*
- ❖ *Promote EPR solutions that recognize fiscal challenges for small businesses and avoid, to the extent feasible, increased cost to consumers.*

Initiative (C) - Make Sustainability Easy and Discourage "Trashing" in County Unincorporated Communities

- ❖ *Prior to issuing new contracts, evaluate the sustainability of the existing solid waste collection system and modify if necessary, considering:*
 - ◆ *the effectiveness of the system;*
 - ◆ *customer satisfaction; and*
 - ◆ *effectiveness of the programs and policies in helping to meet and exceed the State's waste diversion mandates, other State and County priorities, and the disposal reduction targets established in this Roadmap.*
- ❖ *Evaluate and implement, if feasible, alternative trash collection methods, such as reducing trash collection frequency; adjusting the size of bins; implementing a volume or weight-based trash collection system (pay as you throw); collecting additional organics in the green waste bin; and/or a two-bin collection system (wet and dry) processed at a MRF for separation and recovery.*
- ❖ *Explore and implement, if feasible, revisions to current and future Franchise and Garbage Disposal District waste hauler contracts to advance the goals of the Roadmap, while respecting existing contracts. Consider:*
 - ◆ *Eliminating the collection of unlimited quantities of waste.*

- ◆ *Creating incentives or requirements to meet specific diversion standards (e.g., 80% by 2025).*
- ◆ *Developing incentives for local disposal to the nearest landfill or alternatives to landfills.*
- ◆ *Revising or eliminating Garbage Disposal Districts including possibly converting the residential or commercial customers to the franchise system.*
- ❖ *Explore and implement, with the concurrence of residents and businesses, modification to the County Code to include warnings and penalties for not recycling, and create a mechanism to monitor and enforce recycling (e.g., cameras on waste collection vehicles).*
- ❖ *Create and support an innovative “Tech Lab” incubator for reuse/recycle enterprise development.*
- ❖ *Research the feasibility of implementing product bans or disposal bans where sustainable alternatives are readily available and reasonable.*
- ❖ *Encourage additional recycling receptacles to be placed and maintained in business corridors, especially adjacent to existing public trash receptacles.*

Initiative (D) - Recover Organics, including Food Waste, to the Highest and Best Uses in County Unincorporated Communities

- ❖ *Collaborate with waste haulers to develop organics collection and diversion programs in County Unincorporated Communities, where feasible.*
- ❖ *Explore and implement, if feasible, Food DROP for unused edibles in County Unincorporated Communities (see description in the Priority Issues section).*
 - ◆ *Create a database of large food waste generators such as restaurants, cafeterias, hotels, and large event venues, in County Unincorporated Communities.*
 - ◆ *Explore and establish partnerships with food service providers, businesses, or nonprofits for development and operation of Food DROPs in County Unincorporated Communities.*
 - ◆ *Educate businesses in County Unincorporated Communities on the Bill Emerson Good Samaritan Food Donation Act²¹ to address liability concerns.*
- ❖ *Research the feasibility of a mobile organics collection system for specific events like concerts and large picnic events.*
- ❖ *Consider establishing an ordinance for the food service industry to provide compostable take-out containers and utensils, once options to compost or recover such materials are widely available.*

Initiative (E) - Maximize Diversion of Construction and Demolition (C&D) Debris in County Unincorporated Communities

²¹ The Federal Bill Emerson Good Samaritan Food Donation Act, passed in 1996, protects both donors and recipients of donated food from legal liability, except in cases of gross negligence or intentional misconduct.

- ❖ *Revise the C&D Recycling and Reuse Ordinance to:*
 - ◆ *Match new requirements established by the County's Green Building Ordinance and State Green Building Code and incorporate more green building standards.*
 - ◆ *Increase the diversion requirement to 70 percent for mixed C&D, 100 percent for all asphalt and concrete, unpainted wood, glass, sediment, and green waste.*
- ❖ *Consider incentives to promote deconstruction and the use of salvaged materials.*
 - ◆ *Prepare a deconstruction services guide.*
 - ◆ *Support used building materials outlets and stores as well as Resource Recovery Centers (as described in the Priority Issues section) at landfills and transfer stations that serve the County unincorporated communities.*
- ❖ *Support historic preservation and those seeking to restore and reuse buildings, include "adaptive reuse" as a priority in building standards and encourage the remodeling or repurposing of buildings that are still functional.*

Strategy 2: Measuring Results

Use benchmarking, goal-Setting, monitoring, and evaluation to measure the effectiveness of programs and services, facilities and infrastructure, and outreach and education for residents and businesses in order to strive for continuous improvement and encourage innovation in reducing waste through source reduction in the County Unincorporated Communities.

Initiative (A) - Waste Sector Assessment in the County Unincorporated Communities

- ❖ *Conduct assessment of waste sectors that are sending waste to disposal facilities.*
 - ◆ *Conduct regular Waste Characterization Studies for entire County Unincorporated Communities (all sectors) at 5- to 10-year intervals to determine material types being disposed which could ultimately be recycled. Include MRFs and transfer stations, as well as self-haul, scavenging, and recycling drop off centers to determine accurate generation and diversion rates.*
 - ◆ *Conduct smaller sample audits of material types disposed that could be recycled, using hauler loads where feasible.*
 - ◆ *Assess the proportion of the waste that the County controls (e.g., through its franchise system) and quantities of recycling and organic waste diversion.*
 - ◆ *Examine the level of detail available in assessing the quantities from the various waste sectors.*
 - ◆ *Assess drivers that result in open market/self haulers sending waste to disposal.*
 - ◆ *Partner with academia to help mine data collected from waste assessments.*
- ❖ *Develop metrics for the movement of waste through the various stages of the solid waste management system, and model the system for the purpose of assessing how new programs could affect the flow of waste through the system.*

- ❖ *Account for scavenging and noncurbside recycling at recycling centers.*
- ❖ *Collaborate with organizations to offer waste stream studies to large businesses.*
 - ◆ *Build partnerships with hospitals, schools, hotels, and large manufacturers.*

Initiative (B) - Evaluate and Measure the Success of Existing Programs and Consider New Programs in the County Unincorporated Communities.

- ❖ *Create a separate framework/template to monitor and measure the success of each new proposed program or initiative as well as existing programs.*
 - ◆ *Obtain feedback from residents and businesses on existing programs prior to implementing new policies and standards.*
- ❖ *Establish benchmarks tied to waste reduction goals – disposal, recycling, other diversion.*
 - ◆ *Look into ways to get more data for recycling and waste reduction, such as collaboration with haulers and materials collection and processing facilities.*
 - ◆ *Develop a tracking tool to measure and assess source reduction.*
- ❖ *Analyze the lifecycle effects of nonrecyclable, single-use materials (i.e., consumer rubber products, packaging, etc.) and recycled materials.*
 - ◆ *Partner with a research institution/university for assistance with lifecycle assessments.*
 - ◆ *This lifecycle assessment would be the basis for future action by the County to phase out or ban these materials.*
- ❖ *Create an Environmental Benefits Calculator for additional evaluation and benchmarking of programs or initiatives to recognize external benefits and successes, such as greenhouse gas (GHG) reductions and water conservation.*

Initiative (C) - Ensure Sustainable Funding and Alignment of Incentives with Program Goals in the County Unincorporated Communities

- ❖ *Annually review program expenditures and revenues to ensure efficiencies and sustainable funding.*
- ❖ *Evaluate and modify, if needed, existing revenue streams, such as the Solid Waste Generation Service charge, to mitigate funding lost from waste reduction efforts, and align incentives with waste reduction goals.*
 - ◆ *Identify funding mechanisms/sources for current programs, and estimate future revenues from those sources.*
 - ◆ *If revenues are projected to decline and programs cannot be realigned to mitigate this impact, identify options to augment revenue streams or accomplish the goals of the programs through other mechanisms, in order to ensure adequate funding is available to carry out programs and policies.*

- ❖ *Identify options for program funding adjustments that incentivize recycling and fund diversion programs, in compliance with Prop 218 and Prop 26, as applicable.*
- ❖ *Advocate for EPR to reduce County costs for collecting abandoned materials in road right-of-ways, such as paint, carpet, furniture, and mattresses.*
 - ◆ *Realize savings from program efficiencies and efforts, such as EPR, to ensure sustainable program funding.*
- ❖ *Explore grant funding and loans to augment program funding.*
- ❖ *Evaluate the financial impact of scavenging to recycling programs, and identify options to reduce the incidence of scavenging.*

Strategy 3: Facilities and Infrastructure

Incorporate sustainability practices and develop more advanced local waste management facilities and infrastructure in a fiscally, socially, and environmentally responsible manner in the County Unincorporated Communities.

Initiative (A) - Develop Conversion Technologies and Integrated Materials Recovery Facilities in the County Unincorporated Communities

- ❖ *Establish a streamlined and coordinated County permitting process for essential waste management facilities that are environmentally safe and technically feasible located in County Unincorporated Communities, including conversion technologies, material recovery facilities (MRFs), C&D processing facilities, transfer stations, etc.*
- ❖ *Develop educational pilot projects in the County Unincorporated Communities to demonstrate the benefits and safety of conversion technologies.*

Initiative (B) - Organics Processing Infrastructure in the County Unincorporated Communities

- ❖ *Evaluate options to encourage the development of local organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations, to assist businesses in the County Unincorporated Communities with AB 1826 compliance.*
 - ◆ *Identify businesses that generate large amounts of food or green waste.*
 - ◆ *Investigate opportunities to develop micro-composters or digesters in County unincorporated communities at large community venues/facilities such as schools, restaurants, grocery stores, etc.*
 - ◆ *Investigate community digesters for food waste that cannot be donated.*
 - ◆ *Work with County CEO Real Estate Unit to identify possible sites for anaerobic digestion facilities.*
 - ◆ *Investigate opportunities to develop organics diversion facilities at landfills located in the County Unincorporated Communities.*

- ❖ *Partner with select County Unincorporated Communities to institute pilot compost programs that can be replicated on a broader scale if successful.*

Initiative (C) - Local Green Business and Market Development in County Unincorporated Communities

- ❖ *Seek and encourage new green businesses and remanufacturing facilities to locate in the County Unincorporated Communities.*
- ❖ *Determine how to incentivize the use of recycled products or re-use for businesses.*
 - ◆ *Seek out and promote grant funding for green businesses.*
- ❖ *Incorporate provisions to ensure the availability of a viable market for materials removed during sediment basin cleanouts.*

Initiative (D) - Resource Recovery Centers and “Re-stores” in the Unincorporated Area

- ❖ *Explore adoption of an ordinance or policy to develop Resource Recovery Centers, as described in the Priority Issues section, at all transfer stations and landfills in the unincorporated area.*
- ❖ *Explore processing of self-haul loads at transfer stations serving the County Unincorporated Communities.*
- ❖ *Support private sector investment in Resource Recovery Centers for self-haul customers.*
- ❖ *Support siting of re-stores in the County Unincorporated Communities throughout the County.*

Strategy 4: Outreach and Education

Incorporate proactive and appropriate communication tools in order to engage and empower stakeholders and further promote a sustainable waste management future for County Unincorporated Communities.

Initiative (A) - Communication Action Plan for County Unincorporated Communities

- ❖ *Develop an outline for a unique communication plan, focused at the unincorporated community level based on demographics, resources, and commercial and industrial businesses in the targeted areas.*
 - ◆ *Initiate a unifying slogan, such as “Don’t Waste Your Waste” in the outreach campaign, promoting the Four R’s (Reduce, Reuse, Recycle, Rethink) to effect behavioral change in residents and businesses.*
 - ◆ *Include face-to-face and targeted communication as part of the plan.*
 - ◆ *Communication plan will focus on the 11 Planning Areas identified in the County General Plan to encourage maximum participation by the community.*

- ❖ *Establish partnerships to build on and promote other sustainability programs.*
- ❖ *Create more opportunities for effective communication with businesses and residents through social media (Blog posts, Twitter, Youtube, Instagram, Facebook, Pinterest, Tumblr, etc.).*
- ❖ *Conduct surveys, organized by regions, to determine program effectiveness and solicit feedback.*
- ❖ *Educate businesses on recycling programs that can help them reduce their disposal costs and increase their recycling rate.*
- ❖ *Educate the public on policy issues relative to sustainability.*
 - ◆ *Produce one or more short videos to get the message out to the public.*
 - ◆ *Partner with town councils, homeowners associations, chambers of commerce, faith-based organizations, etc., to get messaging out.*
- ❖ *Educate the public on the environmental benefits and safety of conversion technology facilities and inform them of successful conversion projects.*
- ❖ *Develop a social marketing program to find the best means to encourage people to use public recycling bins. Use a “Community-Based Social Marketing” style of analysis and focus groups to measure results and implement pilot programs.*
- ❖ *Develop an awareness campaign identifying problematic products (such as household hazardous waste, disposable diapers, and other single-use or hard-to-recycle items) and promote alternatives.*

Initiative (B) - Stakeholder Engagement and Empowerment in the County Unincorporated Communities

- ❖ *Incorporate incentives, awards, contests, etc., to encourage program participation by residents and businesses.*
- ❖ *Create an interactive website with a forum for residents to report their individual sustainability projects or personal waste reduction efforts.*
- ❖ *Sponsor an annual Business Zero Waste Workshop, with featured speakers from various zero-waste businesses demonstrating how to implement waste reduction programs in the workplace and how to measure progress.*
- ❖ *Host planning workshops with waste haulers, businesses, multifamily complex owners, and other stakeholders to solicit feedback and foster collaboration.*
- ❖ *Collaborate with County Unincorporated Communities during development of each implementation plan to encourage a broad commitment. Cultivate partnerships with like-minded entities to maximize education and outreach capabilities.*
- ❖ *Coordinate recycling events, such as a fashion show or art show, utilizing recycled and/or repurposed materials.*
- ❖ *Develop case studies of model sustainability programs and promote best practices.*

- ❖ *Incorporate multiple languages (Arabic, Armenian, Chinese, Farsi, Korean, Spanish, Tagalog, Vietnamese, etc.) in educational and outreach efforts.*
- ❖ *Support the formation of “Green Teams” (groups representing chambers of commerce, property managers, faith community, schools, etc.) and encourage them to work with their networks to pursue Zero Waste.*
- ❖ *Establish a “Sustainable Community Leader” award for unincorporated County residents and businesses. Residents and businesses would be recognized for taking initiative to reduce, reuse, recycle, and compost in their home or business.*

REGIONAL/COUNTYWIDE

Strategy 1: Programs and Services

Develop, enhance, and expand high-quality programs and services at a Regional/Countywide level to provide for solid waste management needs while striving to reduce the amount of waste generated and disposed of at all County landfills.

Initiative (A) - Institutionalize Waste Prevention and Source Reduction at a Regional/Countywide Level

- ❖ *Evaluate with local municipalities and other public agencies opportunities to implement policies, such as EPR Ordinances.*
- ❖ *Share County purchasing guides with schools and other jurisdictions, as applicable.*
- ❖ *Evaluate reuse programs.*
 - ◆ *If found feasible and implemented in County Unincorporated Communities, encourage cities to assign redemption fees on items other than existing CRV beverage containers and expanding the list of CRV beverage containers to boost recycling and reuse (e.g., glass wine or liquor bottles).*
 - ◆ *Explore with local municipalities and other public agencies the most effective methods for them to implement and enforce policies, such as bans, requirements, or ordinances. For policies determined to be more effective at a regional or Statewide level, encourage collaboration among cities and/or support legislation, as was done for the County’s policy to reduce plastic bag litter.*

Initiative (B) - Advocate for Extended Producer and Manufacturer Responsibility at a Regional/Countywide Level

- ❖ *Be a strong advocate with partner agencies and municipalities for EPR policy, legislation and programs regionally, Statewide, and nationally, particularly to drive improvements in product design that are environmentally sustainable.*

- ❖ *Encourage cities within the County to adopt by resolution any County EPR ordinances, once established, in order to improve the benefits and economies of scale of such ordinances.*

Initiative (C) - Recover Organics, including Food Waste, to the Highest and Best Uses at a Regional/Countywide Level

- ❖ *Utilize the existing Smart Gardening program to promote the diversion of organic waste Countywide.*
 - ◆ *Provide food waste educational opportunities and composting resources for multifamily residents.*
 - ◆ *Establish a network of community gardens and facilities for composting of food/yard waste, and utilize this local network of micro-composters to produce compost from food and yard waste, which can be used for backyards and gardens at the neighborhood level.*
- ❖ *Partner with school districts to ensure that every school in Los Angeles County has a garden.*
- ❖ *Explore and implement, if feasible, Food DROP for unused edibles (see description in the Priority Issues section).*
 - ◆ *Explore and establish partnerships with food service providers, businesses, or nonprofits for development and operation of Food DROPs on a regional basis.*

Initiative (D) - Maximize Diversion of Construction and Demolition (C&D) Debris at a Regional/Countywide Level

- ❖ *Make the revised C&D Recycling and Reuse Ordinance available to other jurisdictions as a template for adoption.*

Initiative (E) - Maximize Diversion of Household Hazardous Waste (HHW) and Electronic Waste (E-Waste) at a Regional/Countywide Level

- ❖ *Work with cities and landfill operators to increase the number of permanent HHW and E-Waste collection centers where feasible.*
 - ◆ *Determine how many centers would be needed along with expected upfront and operating costs.*
 - ◆ *Identify potential locations convenient to the community to increase participation and reduce the amount of toxic materials improperly disposed.*
- ❖ *Consider establishing swap stations for reusable products dropped off at permanent centers.*
- ❖ *Maintain agreement with PaintCare to collect and recycle residential consumer paint.*

- ❖ *Explore and implement, if feasible, a curbside HHW and E-Waste collection program.*

Strategy 2: Measuring Results

Encourage and partner with municipalities and regional special districts to use benchmarking, goal-setting, monitoring, and evaluation to measure the effectiveness of programs and services, facilities and infrastructure, and outreach and education to strive for continuous improvement and encourage innovation in reducing waste through source reduction at the Regional/Countywide level.

Initiative (A) - Evaluate and Measure the Success of Existing Programs and Consider New Programs at a Regional/Countywide level.

- ❖ *Create a separate framework/template to monitor and measure the success of each new proposed Countywide program or initiative as well as existing programs.*
 - ◆ *Obtain feedback from residents, businesses, jurisdictions, and other partners, including municipalities and special districts, on existing programs prior to implementing new policies and standards.*
- ❖ *Establish benchmarks tied to waste reduction goals – disposal, recycling, other diversion.*
 - ◆ *Encourage partner agencies to obtain and share more data for recycling and waste reduction, such as collaboration with haulers and materials collection and processing facilities.*
 - ◆ *In cooperation with partner agencies, develop tracking tools to measure and assess source reduction.*

Initiative (B) - Ensure Sustainable Funding and Alignment of Incentives with Program Goals at a Regional/Countywide Level

- ❖ *Annually review program expenditures and revenues for Countywide programs to ensure efficiencies and sustainable funding.*
- ❖ *Evaluate and modify, if needed, existing revenue streams, such as the Countywide Solid Waste Management Fee, to mitigate funding lost from waste reduction efforts, and align incentives with waste reduction goals.*
 - ◆ *Identify funding mechanisms/sources for current programs, and estimate future revenues from those sources.*
 - ◆ *If revenues are projected to decline and programs cannot be realigned to mitigate this impact, identify options to augment revenue streams or accomplish the goals of the programs through other mechanisms, in order to ensure adequate funding is available to carry out programs and policies.*

- ❖ *Identify options for program funding adjustments that incentivize recycling and fund diversion programs, in compliance with Prop 218 and Prop 26, as applicable.*
- ❖ *Explore grant funding and loans to augment program funding, identify partnerships with jurisdictions, agencies, and nonprofits on grant applications for regional programs and efforts to increase opportunities to obtain funding.*
- ❖ *Advocate for EPR to reduce County costs for operating collection programs at the Regional/Countywide level targeting “take back” materials, such as paint, pharmaceuticals, carpet, furniture, and mattresses.*
 - ◆ *Realize savings from program efficiencies and efforts, such as extended producer responsibility, to ensure sustainable program funding.*

Strategy 3: Facilities and Infrastructure

Incorporate sustainability practices and develop more advanced waste management facilities and infrastructure in a fiscally, socially, and environmentally responsible manner at a Regional/Countywide level.

Initiative (A) - Develop Conversion Technologies and Integrated Materials Recovery Facilities at a Regional/Countywide Level

- ❖ *Work with State and regional agencies, such as CalRecycle, the Regional Water Quality Control Board, and the South Coast Air Quality Management District, to streamline the permitting process for essential waste management facilities that are environmentally safe and technically feasible, including conversion technologies, material recovery facilities, C&D processing facilities, transfer stations, etc., at the regional and State level.*
- ❖ *Continue to sponsor and support legislation to encourage the environmentally sound development of conversion technologies and build a coalition of organizations to do so.*
- ❖ *Evaluate options to establish incentives in order to level the cost differential between conversion technology facilities and landfills, or otherwise incentivize waste haulers to direct waste to such facilities.*
- ❖ *Increase awareness of the www.SoCalConversion.org website as a one-stop portal for information regarding local project development, local ordinances, permitting processes, and general information and resources related to conversion technology development.*

Initiative (B) - Organics Processing Infrastructure at a Regional/Countywide Level

- ❖ *Evaluate opportunities to encourage the development of regional organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations.*
 - ◆ *Explore opportunities for co-digestion of source-separated commercial organics at wastewater treatment plants with excess digester capacity.*

Initiative (C) - Local Green Business and Market Development at a Regional/Countywide Level

- ❖ *Work with partner cities in the County Recycling Market Development Zone (RMDZ) to encourage new green businesses and remanufacturing facilities to locate in Los Angeles County.*
- ❖ *Continue to seek opportunities to expand the RMDZ to include additional interested cities in Los Angeles County.*

Initiative (D) - Resource Recovery Centers and “Re-stores” at a Regional/Countywide Level

- ❖ *Partner with the Sanitation Districts of Los Angeles County and municipalities in the County to facilitate the development of Resource Recovery Centers, as described in the Priority Issues section, at all publically-owned transfer stations and landfills.*

Initiative (E) - Emergency Management/Debris Management Plan at a Regional/Countywide Level

- ❖ *Update County’s Debris Management Plan to maximize diversion of materials following emergencies and disasters.*
 - ◆ *Include a list of as-needed emergency debris removal service contracts for handling disaster debris generated in the County Unincorporated Communities and contract cities.*
 - ◆ *Identify temporary storage areas for interim stockpiling of disaster debris for recycling.*
 - ◆ *Update the list of recycling and disposal facilities for managing disaster debris.*
 - ◆ *Ensure debris management practices include good-faith efforts to source separate, reuse, and recycle materials to the extent feasible.*
 - ◆ *Clarify lines of responsibility for various agencies.*

Strategy 4: Outreach and Education

Incorporate proactive and appropriate communication tools in order to engage and empower stakeholders and further promote a sustainable waste management future at a Regional/Countywide level.

Initiative (A) - Communication Action Plan at a Regional/Countywide Level

- ❖ *Develop an outline for a broad communication plan, promoting the Four R’s (Reduce, Reuse, Recycle, Rethink) to inspire behavioral change in residents and businesses.*
 - ◆ *Include face-to-face and mass media communication as part of the plan.*

- ◆ *Brand the campaign slogan (e.g., “Don’t Waste Your Waste”) and encourage cities to adopt and include in their websites as a consistent slogan.*
- ◆ *Establish partnerships to build on and promote other sustainability programs, and partner with other jurisdictions or agencies, as appropriate, to leverage resources and amplify the message of sustainability.*

Initiative (B) - Stakeholder Engagement and Empowerment at a Regional/Countywide Level

- ❖ *Partner with universities and community colleges in the County to establish green workforce training programs and assist with data mining.*
- ❖ *Expand the Generation Earth Battle of the School program and encourage all schools serving the County Unincorporated Communities to participate.*

COUNTY OPERATIONS

Strategy 1: Programs and Services

Develop, enhance, and expand high-quality programs and services at County facilities to provide for solid waste management needs while striving to reduce the amount of waste generated and disposed of at landfills.

Initiative (A) - Institutionalize Waste Prevention and Source Reduction at County Facilities

- ❖ *Identify areas of excess waste at County facilities and operations and create source reduction policies within the framework of the County’s budget.*
- ❖ *Develop templates for programs and policies and implement them at County facilities and operations.*
- ❖ *Provide technical assistance, training, financing, and other resources for County departments to ensure their success.*
- ❖ *Evaluate County purchasing practices:*
 - ◆ *Find ways to save money and reduce the purchase of excess food, paper, and other supplies that may be wasted and disposed of at landfills. Provide a web-based inter-department materials exchange for office supplies and equipment. Remove barriers to donating unwanted or excess materials.*
 - ◆ *Review and make enhancements to the County’s Green Purchasing Policy to purchase products that are recyclable, compostable, reusable, repairable, and locally manufactured or grown. Publish a list of products that meet these standards.*
 - ◆ *Identify opportunities for Countywide purchasing initiatives for recyclable or compostable service ware (or other items that may be more expensive than the hard to recycle items).*

- ❖ *Establish a Paperless Office Initiative at County facilities where feasible, incorporating e-communication as much as possible.*
- ❖ *Explore and, if feasible, develop and implement more aggressive reuse programs.*
 - ◆ *Consider policies to discourage single-use water bottles in favor of reusable water bottles. Incorporate hydration stations at County facilities to encourage employees and visitors to bring reusable water containers.*
 - ◆ *Incorporate bulk dispensers at County facilities with cafeterias for commonly purchased items, such as milk, soda, juice, and condiments, to eliminate waste of individual packaged items.*
 - ◆ *Organize a once a month “swap yours for mine” event for employees to bring items that they would like to swap with other employees or donate.*
 - ◆ *Suggest replacement systems for reducing certain materials (e.g., tablets to facilitate a paperless office).*

Initiative (B) - Advocate for Extended Producer and Manufacturer Responsibility at County Facilities

- ❖ *Incentivize EPR, such as reduced packaging, in County procurement and contracts, giving consideration to vendors who utilize EPR.*

Initiative (C) - Make Sustainability Easy and Discourage "Trashing" at County Facilities

- ❖ *Provide for recycling at public venues, where feasible and funded, such as beaches, libraries, hospitals, and parks, internal County functions, and employee events; provide more public recycling receptacles placed adjacent to public trash receptacles.*
- ❖ *Provide waste reduction technical assistance to large County venues and events to achieve net-zero waste.*
- ❖ *Expand the County Recycling Coordinator program and develop standardized reuse and recycling processes.*

Initiative (D) - Recover Organics, including Food Waste, to the Highest and Best Uses at County Facilities

- ❖ *Explore and implement, if feasible and funded by the Board through a department's annual budget appropriations, food waste/organics collection, food drops, and composting programs at specific County facilities.*
 - ◆ *Identify largest generators of food and green waste among County facilities.*
 - ◆ *Create a pilot program to be a model program that would be implemented at other County facilities.*

- ❖ *Encourage and incentivize organics collection or onsite management at venues with cafeterias, such as hospitals and detention centers.*
- ❖ *Research the feasibility of a mobile organics collection system for specific events like concerts and large picnic events.*

Initiative (E) - Maximize Diversion of Construction and Demolition (C&D) Debris at County Facilities

- ❖ *Revise the C&D Recycling and Reuse Ordinance to:*
 - ◆ *Match new requirements established by the County's Green Building Ordinance and State Green Building Code and incorporate more green building standards.*
 - ◆ *Increase the diversion requirement to 70 percent for mixed C&D, 100 percent for all asphalt and concrete, unpainted wood, glass, sediment, and green waste.*
 - ◆ *Include standards for County facilities and projects to achieve net-zero waste.*
- ❖ *Require maintenance contracts to increase longevity of materials, such as carpet, upholstery, and furniture, used at County facilities.*
- ❖ *Provide incentives for green buildings, and update the County green building policy to provide incentives for use of products that are more durable, have a longer lifespan, require no additional finishing on-site, have less frequent maintenance and repair cycles, and give credits for products made from recycled content.*

Strategy 2: Measuring Results

Use benchmarking, goal-setting, monitoring, and evaluation to measure the effectiveness of programs and services, facilities and infrastructure and outreach and education in order to strive for continuous improvement and encourage innovation at County facilities.

Initiative (A) - Waste Sector Assessment at County Facilities

- ❖ *Develop a methodology, schedule, and budget to conduct waste generation and disposal surveys at County operations.*
- ❖ *Develop metrics for the movement of waste through County operations, and model the system for the purpose of assessing how new programs could affect the flow of waste through the system.*

Initiative (B) - Evaluate and Measure the Success of Existing Programs and Consider New Programs at County Facilities

- ❖ *Create a framework to monitor and measure the success of waste reduction programs targeted at County facilities.*
- ❖ *Establish benchmarks tied to waste reduction goals – disposal, recycling, other diversion.*
 - ◆ *Look into ways to get more data for recycling and waste reduction, such as collaboration with haulers and materials collection and processing facilities.*
 - ◆ *Develop a tracking tool to measure and assess source reduction.*
- ❖ *Incorporate sustainability practices and measurement in future County contracts.*

Initiative (C) - Ensure Sustainable Funding and Alignment of Incentives with Program Goals at County Facilities

- ❖ *Review and revise County contracts, such as waste collection franchises, Garbage Disposal Districts, and facility permits to create incentives to reduce waste, such as requiring green waste diversion in landscaping and tree trimming contracts.*
- ❖ *Combine or consolidate shared services and logistics across County departments to reduce operational costs.*
- ❖ *Involve key County departments including the CEO, Public Works, Internal Services, and other affected department(s) to identify County funding options during the budget cycle to implement County facility initiatives.*
- ❖ *Explore incentivizing departments to create budgetary savings in solid waste management that, with CEO concurrence and Board approval, could be redirected to a department's operating budget for main mission services and programs.*

Strategy 3: Facilities and Infrastructure

Incorporate sustainability practices and develop more advanced waste management facilities and infrastructure in a fiscally, socially, and environmentally responsible manner at County facilities.

Initiative (A) - Develop Conversion Technologies and Integrated Materials Recovery Facilities at County Facilities

- ❖ *Develop educational pilot projects, as funding is identified, at County facilities to demonstrate the benefits and safety of conversion technologies.*
- ❖ *Develop guidelines for utilizing byproducts generated through alternative technology facilities for beneficial purposes at County facilities and in County projects.*

Initiative (B) - Organics Processing Infrastructure at County Facilities

- ❖ *Establish guidelines and enable County facilities that are large-quantity food waste generators to do their own composting, where feasible.*
 - ◆ *Create a list of County facilities that generate large amounts of food or green waste.*
 - ◆ *Identify at least two micro-composter pilot project opportunities, including required funding, at County facilities that would foster interdepartmental collaboration and help meet the solid waste management needs of one or more large County departments.*
 - ◆ *Develop guidelines for utilizing locally-produced compost and mulch in County projects and at County facilities.*
 - ◆ *Investigate sites along with cost and permitting details to construct a County anaerobic digestion facility.*

Initiative (C) - Local Green Business and Market Development at County Facilities

- ❖ *Promote the use of recycled materials (e.g., glass, compost) generated from County operations at County facilities, where feasible.*
- ❖ *Determine how to incentivize the use of recycled products or re-use for County operations.*

Strategy 4: Outreach and Education

Incorporate proactive and appropriate communication tools in order to engage and empower stakeholders and further promote a sustainable waste management future at County facilities.

Initiative (A) - Stakeholder Engagement and Empowerment

- ❖ *Incorporate incentives, awards, contests, etc., to encourage employee participation in sustainability programs.*

- ❖ *Create an interactive website with a forum for departments to report their individual sustainability projects or personal waste reduction efforts, including budgetary savings and efficiencies.*

Initiative (B) - Leadership in Sustainability

- ❖ *Work with County departments to implement sustainable practices, where fiscally feasible, based on feedback from waste surveys.*
- ❖ *Encourage innovation by establishing a fund for composting projects or facilities to be developed by County departments or in consultation with private operators.*
- ❖ *Provide training for staff in advance of any new initiative impacting County-owned or operated facilities.*
- ❖ *Establish an internal Sustainability Ambassador program for County employees to be responsible for monitoring recycling and composting bins in their designated work area and provide information on upcoming sustainability training available to County staff.*
 - ◆ *Encourage recycling coordinators from each department to meet routinely to share ideas, coordinate efforts, and provide progress reports.*
 - ◆ *Assign the Internal Services Department or a partner department to oversee waste reduction for departments without facilities staff.*
- ❖ *Apply for a Productivity Investment Fund grant (or similar grant) to implement a pilot program within the County family to fully implement Roadmap recommendations.*

Conclusion and Next Steps

Achieving a truly sustainable waste management future for the County is a complex and challenging goal; however, the potential rewards are substantial and well worth the effort, including:

- Reducing dependence on landfills and waste exportation.
- Conserving natural resources.
- Protecting the environment.
- Striving for a cost-effective waste management system.
- Creating green jobs.
- Facilitating community-based programs and venues through which to instill positive change.

The Working Group requests that the Board approve this Roadmap to allow for preparation of detailed implementation plans consistent with the focus areas, strategies, and recommended initiatives described in this Roadmap. Appendix C summarizes the program and policy options identified for each initiative in the Roadmap.

The Working Group recommends that the County initiate a stakeholder engagement process that will vet prospective recommendations from this Roadmap and solicit additional suggestions and feedback from residents, businesses, public agencies, the waste industry, environmental organizations, and any other interested stakeholders. Through a transparent stakeholder process, the Working Group recommends developing more detailed implementation plans with a budget, timeline, and staffing plan, as appropriate. In addition, for County operations, the Working Group recommends that participating departments continue to meet on a regular basis to share ideas, identify key strategies for implementation, and develop waste reduction projects and/or programs that are consistent with the Roadmap.

It is also the recommendation of the Working Group that, subject to Board approval, the Roadmap be shared with residents, businesses, public agencies, the waste industry, environmental organizations, and other interested stakeholders, which will allow other entities to develop their own plans and strategies to reduce waste generation and disposal.

APPENDIX A

DEFINITIONS

AB 32	The California Global Warming Solutions Act of 2006 requires California to reduce its GHG emissions to 1990 levels by 2020 — a reduction of approximately 15 percent below emissions expected under a “business as usual” scenario.
AB 341	Mandatory Commercial Recycling Law. As of July 1, 2012, California requires all businesses that generate four (4) or more cubic yards of garbage per week and multi-family dwellings with five (5) or more units to recycle. The specific statutory language for the law (Assembly Bill 341) can be found in the State's Public Resources Code: PRC Division 30, Part 3, Chapter 12.8, Section 42649.
Alternative Technology	Refers to a technology capable of processing residual municipal solid waste (MSW), such as conversion technology, transformation, or other emerging technologies, in lieu of land disposal.
Anaerobic Digestion	A series of biological processes in which microorganisms break down biodegradable material in the absence of oxygen.
Beneficial Use Materials	Refers to: (1) solid waste that has been source-separated or otherwise processed and put to a beneficial use at a facility, or separated or otherwise diverted from the waste stream and exported from the facility, for purposes of recycling or reuse, and shall include, but not be limited to, green waste, wood waste, asphalt, concrete, or dirt; (2) clean dirt imported to cover and prepare interim and final fill slopes for planting and for berms; or (3) all Alternative Daily Cover materials types.
Biomass	Any organic material not derived from fossil fuels, such as agricultural crop residues, bark, lawn, yard and garden clippings, leaves, silvicultural residue, tree and brush pruning, wood and wood chips, and wood waste, including these materials when separated from other waste streams. ‘Biomass’ or ‘biomass waste’ does not include material containing sewage sludge, industrial sludge, medical waste, hazardous waste, or either high-level or low-level radioactive waste.
California Product Stewardship Council (CPSC)	The California Product Stewardship Council (CPSC) is a network of local governments, non-government organizations, businesses, and individuals supporting policies and projects where producers share in the responsibility for managing problem products at end of life commonly known as extended producer responsibility (EPR).
California State Association of Counties (CSAC)	The primary purpose of the California State Association of Counties (CSAC) is to represent county government before the California Legislature, administrative agencies and the federal government. CSAC places a strong emphasis on educating the public about the value and need for county programs and services.

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Compost	The product resulting from the controlled biological decomposition of organic wastes that are source separated from the municipal solid waste stream, or which are separated at a centralized facility. Compost includes vegetable, yard, and wood wastes which are not hazardous waste.
Compostable	Composed of materials such as vegetable matter, paper, cardboard, and plastics that must (1) break down to carbon dioxide, water, inorganic compounds, and biomass at a rate similar to paper, (2) disintegrate into small pieces within 90 days, so that the original product is not visually distinguishable in the compost, and (3) leave no toxic residue.
Composting	Defined in PRC, Section 40116.1 as "the controlled or uncontrolled biological decomposition of organic wastes." Further defined in CCR, Title 14, Section 17225.14 as "a controlled microbial degradation of organic wastes yielding a safe and nuisance free product."
Conversion Technologies	Refers to a wide array of technologies capable of converting post-recycled or residual solid waste into useful products, green fuels, and renewable energy through non-combustion thermal, chemical, or biological processes. Conversion technologies may include mechanical processes when combined with a non-combustion thermal, chemical, or biological conversion process.
County	The County of Los Angeles including the Board of Supervisors as the legislative and executive body of county government, and any designated agency responsible for solid waste management.
County Green Purchasing Policy	Los Angeles County Policy P-1050, Purchase of Environmentally Preferable Products, established objectives for the purchase of products commonly used by County departments. Under this Purchasing Policy, the County's developed a 5-year plan to phase-in categories of certified goods. Easy to adopt purchasing categories (e.g., paper, cleaning supplies) were implemented and a pricing advantage for green products is in place.
Countywide	The incorporated cities within the county and the unincorporated areas of the county.
Curbside Collection	The collection of solid waste, recyclables, or other materials placed in front of the property (curbside) by the generator who then returns the containers to their normal location after they have been emptied. Curbside collection is generally used in the collection of residential solid wastes and recyclables, or other materials. It is not normally used in commercial, institutional, or industrial solid waste collection.
CRV	California Redemption Value (CRV) is a deposit paid on sales of certain recyclable beverage containers in California.

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Direct Haul	Hauling of collected solid waste in the collection vehicle from its point of collection to a solid waste management facility (materials recovery, mulching, composting, waste-to-energy, or landfill facilities).
Disposal	The final deposition of solid waste onto land, into the atmosphere, or into the waters of the state; the management of solid waste through landfill disposal or transformation at a permitted solid waste facility; the final deposition of solid wastes onto the land; "the management of solid waste through landfilling or transformation at permitted solid waste facility.
Diversion	The act of diverting one or more designated materials from a solid waste stream. Diversion typically occurs at the point of generation. Normally, diversion is used to divert recyclables for separate collection, but it may also be used to prevent certain materials from being managed with the rest of a solid waste stream.
Extended Producer Responsibility (EPR)	A mandatory form of product stewardship that includes, at a minimum, the requirement that the producer's responsibility for their product extends to the post-consumer management of that product and its packaging. There are two related features of EPR policy: (1) the shifting of management and financial responsibility upstream to the producer and away from municipalities, and (2) to provide incentives to producers to incorporate environmental considerations in the design of their products.
Flow Controls	Legal provisions that allow state and local governments to designate the places where MSW is taken for processing, treatment, or disposal. Flow controls may take the form of a "wasteshed" restriction, limits on the amount of waste from individual jurisdictions, host fees, and/or outright bans on the importation of solid waste.
Green Waste	Organic wastes from lawn, tree, horticultural, and landscaping services including leaves, grass clippings, tree prunings, large cut waste timber and stumps, and other materials which are generated by commercial or nonresidential activities, as well as similar materials generated by homeowners from their lawns and gardens.
Household Hazardous Waste (HHW)	Solid waste generated by residential generators that exhibit the characteristics of a hazardous waste as established by United States Environmental Protection Agency (USEPA) hazardous waste regulations (USEPA 1980.) These wastes are exempt from the Resource Conservation and Recovery Act (RCRA) hazardous waste regulatory requirements, but may be included in state regulations.
Hydration station	Is a water fountain that provides a filtration unit designed to facilitate the filling of reusable water bottles and there by promote reuse and eliminate the need for disposable plastic water bottles.

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Landfill	A waste management unit at which waste is discharged in or on land for disposal. It does not include surface impoundment, waste pile, land treatment unit, injection well, or soil amendments.
Lean Operations	Reducing the amount of raw materials needed.
Materials Recovery Facility (MRF)	A solid waste facility where solid wastes or recyclable materials are sorted or separated, by hand or by use of machinery, for the purposes of recycling, composting, or use as feedstock for alternative technology facilities.
Organic	Material containing carbon and hydrogen. Organic material in [municipal solid waste] includes the biomass components of the waste stream as well as hydrocarbons usually derived from fossil sources (e.g., most plastics, polymers, the majority of waste tire components, and petroleum residues).
Paperless Office	Refers to a County initiative to eliminate paper and digitize filing systems and internal processes.
Pay as you throw	In communities with pay-as-you-throw programs (also known as unit pricing or variable-rate pricing), residents are charged for the collection of municipal solid waste—ordinary household trash—based on the amount they throw away. This creates a direct economic incentive to recycle more and to generate less waste.
Post-Recycled	Material remaining after recycling that would have otherwise gone to disposal
Price Signal	Information conveyed via the price charged for a product.
Putrescible Waste	Solid wastes that are capable of being decomposed by micro-organisms with sufficient rapidity as to cause nuisances because of odors, vectors, gases or other offensive conditions, and include materials such as, but not limited to, food wastes, offal and dead animals.
Recovery	Refers to any waste management operation that diverts a material from the waste stream and which results in a product with a potential economic or ecological benefit. Recovery mainly refers to the following operations 1) re-use, 2) material recovery such as recycling 3) biological recovery such as composting, and 4) energy recovery such as fuel production
Recycling	The process of collecting, sorting, cleansing, treating, and reconstituting materials that would otherwise become solid waste, and returning them to the economic mainstream in the form of raw material for new, reused, or reconstituted products which meet the quality standards necessary to be used in the marketplace.
Removal	Defined in CCR, Title 27, Section 20164 as “the act of taking solid wastes from the place of waste generation either by an approved collection agent or by a person in control of the premises.”

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Residual Solid Waste	Refers to the post-recycled content or remaining solid waste after MSW has gone through the recycling, source reduction, and reuse method.
Rubbish	Non-putrescible solid wastes such as ashes, paper cardboard, tin cans, yard clippings, wood, glass, bedding, crockery, plastics, rubber by-products, or litter.
Salvaging	The controlled removal of waste material for utilization.
Scavenging	Defined in CCR, Title 27, Section 20164 as “the uncontrolled and/or unauthorized removal of solid waste materials, or recyclable material at a solid waste facility.”
Sharps	Means hypodermic needles, pen needles, intravenous needles, lancets, and other devices that are used to penetrate the skin for the delivery of medications.
Solid Waste	<p>All putrescible and nonputrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, dewatered, treated, or chemically fixed sewage sludge which is not hazardous waste, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid wastes.</p> <p>(b) ‘Solid waste’ does not include any of the following wastes: (1) Hazardous waste, as defined in Section 40141. (2) Radioactive waste regulated pursuant to the Radiation Control Law (Chapter 8 (commencing with Section 114960) of Part 9 of Division 104 of the [HSC]). (3) Medical waste regulated pursuant to the Medical Waste Management Act (Part 14 (commencing with Section 117600) of Division 104 of the [HSC]). Untreated medical waste shall not be disposed of in a solid waste landfill, as defined in Section 40195.1. Medical waste that has been treated and deemed to be solid waste shall be regulated pursuant to this division.”</p>
Solid Waste Disposal	Refers to the final deposition of solid waste onto land, into the atmosphere, or into the waters of the state, as defined in PRC, Section 40192; or the management of solid waste through landfilling or transformation at a permitted solid waste facility.
Solid Waste Management	A planned program for effectively controlling the generation, storage, collection, transportation, processing and reuse, conversion or disposal of solid wastes in a safe, sanitary, aesthetically acceptable, environmentally sound and economical manner. It includes all administrative, financial, environmental, legal and planning functions as well as the operational aspects of solid waste

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	handling, disposal and resource recovery systems necessary to achieve established objectives."
State	Refers to the State of California
Sustainable	Ability to meet the needs of the present without compromising the ability of future generations to meet their own needs
Toxic / Hazardous	Chemical hazards and toxic substances pose a wide range of health hazards (such as irritation, sensitization, and carcinogenicity) and physical hazards (such as flammability, corrosion, and reactivity).
Transfer Station	Refers to a facility that receives unprocessed waste, temporarily stores it, and ships it off-site to another facility.
Universal Waste	EPA's universal waste regulations streamline hazardous waste management standards for federally designated "universal wastes," which include: batteries, pesticides, mercury-containing equipment and bulbs (lamps). The regulations govern the collection and management of these widely generated wastes, thus facilitating environmentally sound collection and proper recycling or treatment.
U.S. Environmental Protection Agency	The United States agency charged with setting policy and guidelines, and carrying out legal mandates for the protection of national interests in environmental resources.
Waste	Material eliminated or discarded as no longer wanted, useful, or required.
Waste-Free/ Zero-Waste	Optimally manage and reduce solid waste by diverting from waste stream and maximizing recycling opportunities to eventually achieve 95% landfill diversion.
Wasteshed	Refers to a geographical area from which waste can logically be delivered to a given disposal facility. This term is synonymous with waste service area.
Waste Stream	Refers to the total flow of solid waste from homes, businesses, institutions, and manufacturing plants that must be recycled, reused, composted, converted to useful products or disposed of in a landfill; or any segment thereof, such as the "residential waste stream" or the "recyclable waste stream."
Waste-to-Energy	Refers to an incineration process in which the organic fraction of solid waste is combusted and the released heat is utilized to generate hot water, steam, and electric power, leaving the inorganic fraction (ash) as a residue.

APPENDIX B

Existing Sustainability Efforts and County Programs

Program	Description	Focus Area
Battery Recycling Program	Educates and encourages County residents to properly dispose of their household batteries. Public Works partnered with County Public Library to collect household batteries at designated libraries throughout the County. The program was designed to offer residents a free and convenient outlet to dispose of common household batteries such as Dry Cell Batteries (AA, AAA, C, D, 9-Volt), Rechargeable Batteries (used in cell phones and power tools), and Button Cell Batteries (used in watches, cameras, and hearing aids).	Unincorporated County Areas
County Green Building Program	In 2008, Los Angeles County adopted the Green Building Program, which included the Drought-Tolerant Landscaping, Green Building, and Low Impact Development Ordinances (the Ordinances), and created an Implementation Task Force and Technical Manual.	Unincorporated County Areas
<ul style="list-style-type: none"> • Drought-Tolerant Landscaping Ordinance • County Green Building Code • Low Impact Development Standards Ordinance 	<ul style="list-style-type: none"> • This ordinance establishes drought tolerant landscaping design requirements in Title 31 of the Los Angeles County Code • The 2011 County of Los Angeles Green Building Standards Code regulates the construction of new residential buildings for the purpose of improving public health, safety, and general welfare. This is accomplished by enhancing the design and construction of buildings to reduce their negative impact on the environment and encouraging sustainable construction practices. • The ordinance provides guidance for the implementation of stormwater quality control measures in new development and redevelopment projects in unincorporated areas of the County with the intention of improving water quality and mitigating potential water quality impacts from stormwater and non-stormwater discharges. 	
Community Climate Action Plan	To reduce the impacts of climate change, the County has set a target to reduce GHG emissions from community activities in the unincorporated areas of Los Angeles County by at least 11% below 2010 levels by 2020. This Community Climate Action Plan (CCAP) describes the County's plan for achieving this goal, including specific strategy areas for each of the major emissions sectors, and provides details on the 2010 and projected 2020 emissions in the unincorporated areas. The CCAP is a component of the Los Angeles County General Plan.	Unincorporated County Areas
Construction & Debris Ordinance	The Ordinance requires projects in the unincorporated areas to recycle or reuse 50 percent of the debris generated thereby increasing the diversion of construction and demolition debris from disposal facilities.	Unincorporated County Areas and County Operations
County Energy Investment Program	The Energy Investment Program (EIP) was approved by the Board of Supervisors in 2012. The EIP is a "Revolving Loan Fund" program which uses ARRA seed funding to implement efficiency projects. Department buildings which benefit from the projects repay the EIP fund through their utility savings until the project costs are paid back.	Unincorporated County Areas and County Operations
County Existing Building LEED Certifications	In 2008 the County adopted an ordinance requiring all new County facilities be LEED certified.	County Operations
County-wide Recycled Water Conversion Projects	Public Works has implemented various projects to recycle wastewater and either use it to recharge groundwater supplies, or to distribute for landscape and industrial uses through an expanding delivery infrastructure. ISD, Parks and Sheriff have also contributed to this program.	Countywide
DPH "Video Direct Observed Therapy"	This is a pilot program under development to reduce vehicle trips by staff. Currently, PH staff travel to various locations to directly observe that TB clients ingest their daily dosage of medicine. The pilot would allow the TB client to be observed via video (cell phone, Skype, etc.) by PH staff housed at a PH facility. This would reduce vehicular travel and staff time involved in ensuring the client takes their full course of daily medication.	County Operations
DPH Healthy Design Proposal	In 2009, the Board of Supervisors instructed DPH, DRP, DPW and other departments to develop design standards for building pedestrian, transit, and bicycle friendly developments, promote walking and other outdoor physical activities, which will ultimately be incorporated into the County's Public Works design standards, and the DRP Healthy Design Ordinance. This effort is ongoing in the form of the Healthy Design Workgroup.	County Operations

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DPR Sustainable Park Design	The Department of Parks and Recreation has developed Park Design Guidelines to provide guidance toward design and construction of sustainable park facilities. These guidelines have already been used to provide numerous sustainability improvements at Willowbrook Park, Crescenta Valley Dog Park, Peck Park and the MLK Exercise Garden.	County Operations
DPW Sustainability Infrastructure Rating System	In 2011, in order to establish a common platform to define sustainable infrastructure, DPW adopted EnviSlon™, the Institute for Sustainable Infrastructure (ISI) sustainability rating system. EnviSlon™ certification applies to civil infrastructure of all types and provides rating of the project's economic, social, and environmental impact during design, planning, construction, and maintenance phases.	County Operations
DPW Sustainable Pavement Program	Public Works has developed a more sustainable and cost effective program for rehabilitation, construction, and maintenance of its road network. This approach focuses on addressing roads that are in good condition first (where full sub-grade replacement isn't required), incorporating materials from recycled tires and aggregates from existing pavement and modifying the existing materials in-place by also adding cement to the sub-grade beneath the pavement to improve its strength. Since 2009 Public Works has completed 24 projects utilizing sustainable treatments. These projects have resulted in very significant reductions in energy usage, greenhouse gas emissions, and cost.	Unincorporated County Areas
Electric Vehicle Infrastructure	On March 5, 2013, ISD executed a Memorandum of Agreement with the South Coast Air Quality Management District (AQMD) to receive grant funding of \$120,000, and a Grant Agreement with Mobile Source Air Pollution Reduction Review Committee to accept grant funding of \$192,333, to partially fund the purchase and installation of electric vehicle charging devices at various County facilities. On November 20, 2013, ISD awarded master agreements for the required equipment based on a competitive solicitation process. As required by the AQMD grant, the equipment will be configured to collect data on each Electric Vehicle Supply Equipment charge with revenue grade meters for accuracy of data. ISD is now working with departments to schedule equipment installations during 2014.	County Operations
Expanded Polystyrene Food Container Eradication in County Buildings	The Los Angeles Board of Supervisors directed the Department of Public Works to phase out the use of expanded polystyrene (EPS) food packaging at all County operations, to include restricting the purchase and use of all EPS food containers at County facilities, offices, County-managed concessions, and by commercial food and beverage suppliers at County-permitted or -sponsored events.	County Operations
Farm Restoration at Pitchess Detention Center (PDC)	Farm operations offsets significant inmate food costs, provides vocational and educational opportunities for jail inmates, lowers the carbon footprint, and ensures food supply for inmates. The farm program includes bees and honey production, vermiculture, small scale protein production (tilapia and chickens), greenhouse plant propagation, and community gardens. Other planned programs will minimize water use and preserve the aquifer beneath PDC, eliminate the need for inorganic soil amendments, pesticides and herbicides, restore the health of the soil and watershed, enhance Education Based Incarceration programs, and ensure an optimal and sustainable source of inmate food with significant cost savings to the County.	County Operations
Green Purchasing Policy	In 1994, County adopted a procurement policy for purchase of recyclable materials and recycled-content products. In 1998, the policy expanded to include preference of re-refined motor oil for use in County vehicles if the re-refined oil is comparable and within a 5% cost. In 2000, County created a cooperative that enables government entities to join in purchasing recycled-content paper to stimulate the paper recycling market. It enables cities to benefit from the advantage of collective purchasing power, which reduces the cost for the paper. In 2007, County adopted stronger green purchasing policies to encourage manufacturers and vendors to reduce environmental impacts in production and distribution.	County Operations
Household Hazardous Waste Program (HHW)	Provides residents with a convenient outlet to dispose of their HHW/E-waste at a permanent center or collection event in various communities throughout the County. These events provide residents with a free means to dispose of their toxic, poisonous, corrosive, flammable, and combustible household items, as well as electronic waste.	Countywide

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Illegal Dumping Reporting	Illegal dumping is any unauthorized disposal of waste on any public or private property. This program partners with residents to report illegally dumped material in the County unincorporated areas.	Unincorporated County Areas
LACoMax Materials Exchange Program	Designed to divert usable materials from disposal. Serves as an electronic marketplace where parties can exchange materials at no cost. Users of this on-line service can post or search listings of a wide variety of available and wanted materials.	Countywide
Library Book Recycling	The County of Los Angeles Public Library recycles 26,000 lbs. of books and paper yearly. By collecting books which have reached the end of their usefulness and diverting them from landfills, the Public Library takes a further step toward being a responsible steward of the environment.	Unincorporated County Areas
Pharmaceuticals - No Drugs Down the Drain	Provides for the proper collection and disposal of unused, unwanted, and expired medications.	Countywide
Plastic Bag Ban	An ordinance banning single-use plastic carryout bags at stores in the County unincorporated areas, while requiring they charge 10-cents for each paper carryout bag sold to a customer. The 10-cent charge on paper bags is not subject to State sales tax and will be retained by stores for use in complying with the ordinance.	Unincorporated County Areas
Recycling Market Development Zone (RMDZ)	Combines recycling with economic development to fuel new businesses, expand existing ones, create jobs, and divert waste from landfills. It also provides business and technical assistance, product marketing, and financial assistance to businesses that manufacture a recycled-content product or process materials for recycling. Manufacturing or processing must occur within the RMDZ. Developed by the California Department of Resources Recycling and Recovery (CalRecycle) in partnership with local jurisdictions.	Countywide
Residential Recycling	Teaches residents how to reduce the amount of waste they create.	Unincorporated County Areas
School Source Reduction Programs	Provides waste consultation to schools in unincorporated areas and youth education programs to teach students about recycling and waste reduction.	Unincorporated County Areas
Scrap Metal	Pitchess Detention Center and Men's Central Jail, recycle scrap metal, such as tin, copper, and aluminum. Under Project Isaiah, County Sheriff's Department and other law enforcement agencies recycle confiscated weapons into rebar.	County Operations
Sharps	Proper collection and disposal of home-generated sharps waste such as hypodermic needles, pen needles, intravenous needles, lancets, and other devices that are used to penetrate the skin for the delivery of medications. In addition, state approved containers are distributed to elderly and disabled residents.	Countywide
Sheriff/DPW Composting Pilot	Pitchess Detention Center (PDC) green waste and food waste is composted and used as a soil amendment for the PDC farm. This reduces waste going to landfills and the attendant transportation costs and dump fees. Compost production will provide soil amendments for Department farm operations.	County Operations
Smart Business	Helps businesses reduce the trash they generate and throw away. If a business is located in unincorporated Los Angeles County, the Business Recycling Consultants can assist in setting up or expanding waste prevention and recycling programs by providing consultation to reduce waste at no charge.	Unincorporated County Areas
Smart Gardening	Offers free workshops to all County residents so they can learn about backyard composting, worm composting, grass recycling, water-wise gardening, and fire-wise gardening.	Countywide
Solid Waste Information Management System (SWIMS)	Compiles disposal data collected from solid waste enterprises within the County.	Countywide

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Southern California Regional Energy Network (SoCalREN)	The Southern California Regional Energy Network (SoCalREN) is a local government regional energy network (REN) pilot project serving public agencies and their constituents in the Southern California Edison (SCE) and Southern California Gas Company (SCG) service territories. Los Angeles County, will act as fiscal agent and contractor, and will lead a governance committee of representatives from the cities and counties served by the SoCalREN (including cities, counties and other selected public agencies in the SCE/SCG service territories). SoCalREN will reach nearly half of the cities in California within all or portions of the following counties: Los Angeles, Orange, Ventura, Santa Barbara, Riverside, San Bernardino, Kern, Tulare, Inyo, Mono (and very small portions of King and Fresno).	Unincorporated County Areas and County Operations
Sustainable Beaches Program	Water conservation measures in the form of high efficiency restroom fixture replacements, drought tolerant landscaping, and more efficient irrigation/controls. Alternative fuel vehicle replacements are ongoing, and nearing a total of 25% of DBH fleet. Installation of additional bike racks, LED lighting, and EV charging stations are also underway.	County Operations
Tire collection	Provides education on tire issues, conducts waste tire collection events, and constructs demonstration projects featuring practical uses for recycled tires. The waste tire events are rotated to different County areas for residents to drop off tires for free.	Unincorporated County Areas
TTC North County Tax Payment Processing	For two days each December and two days each April, taxpayers can pay their property tax bills in person in the City of Lancaster. This decreases emissions and air pollution by reducing the number of taxpayers driving downtown to make these payments.	Unincorporated County Areas
Youth Education	Programs that reach out to elementary and secondary school students to teach them about helping the environment and encourages them to make a difference in their local environment by creating campus eco-projects. It also provides development training and personalized support for school teachers including a resource guide.	Countywide

APPENDIX C

County Unincorporated Communities Policy & Program Options

		Stakeholders*					Costs	
		Time Frame	Resident	Business	Other Public Agency**	Waste Hauler/Operator	Start-up cost	Annual costs
Strategy 1: Quality Programs and Services								
A	Initiative: Institutionalize Waste Prevention and Source Reduction							
A1	Develop model purchasing guide/policy for schools and businesses (e.g., fork dispensers instead of individually wrapped forks, recycled content office paper).	S	Y	Y		LOW		
A2	Explore and, if feasible, develop and implement more aggressive reuse programs.	S M L						
A2.a	Consider policies to discourage single-use water bottles in favor of reusable water bottles.	M				MED	LOW	
A2.b	Research the feasibility of assigning redemption fees on items other than existing CRV beverage containers and expanding the list of CRV beverage containers to boost recycling and reuse (e.g. glass wine or liquor bottles).	M				MED	LOW	
A2.c	Encourage local businesses to charge deposits to promote reuse of certain products (e.g. reusable milk bottles).	L	Y	Y	Y	MED	MED	
A2.d	Enable and encourage reusable to-go containers.	M	Y	Y		LOW		
A2.e	Evaluate the most effective methods for implementing and enforcing policies such as bans, requirements, or ordinances and determine the impact on residents and businesses.	M	Y	Y	Y	MED	MED	
A2.f	Promote reuse and repair for residents, businesses, non-profits and local governments with repair workshops (Repair Café and iFixit models); web-based directories for sharing reusable materials such as LACoMAX, the County's free materials exchange network; thrift stores and repair shops; reuse depots like East Bay Depot for Creative Reuse; and/or Tool Lending Libraries.	S				LOW		
B	Initiative: Advocate for Extended Producer and Manufacturer Responsibility							
B1	Establish a working group with businesses, waste haulers and other interested stakeholders to develop solutions that promote EPR while ensuring materials continue to be collected and managed safely and efficiently.	S	Y	Y	Y	Y	MED	
B2	Explore the feasibility of establishing a County EPR ordinance for materials such as pharmaceuticals, needles, carpet, mattresses, and battery management, while ensuring collected items are properly managed in accordance to Federal, State and local laws using environmentally sound practices.	S		Y		MED		
B2.a	Consider legal requirements for producers to phase out toxic materials or to take back these products at the end of life.	S		Y		MED		
B3	Support voluntary take-back initiatives. Encourage businesses and institutions to take back designated products and packaging they sell and are sold by others in their area (especially items that are toxic in their manufacture, use, or disposal, and/or are not currently reusable, recyclable or compostable locally).	S		Y		LOW		
B4	Explore and implement, if feasible, a Green Business Certification that incentivizes local businesses to reduce their waste in operations and products.	M		Y	Y	MED	LOW	
B5	Promote EPR solutions that recognize fiscal challenges for small businesses and avoid, to the extent possible, increased cost to consumers.	M	Y	Y	Y	LOW	LOW	
C	Initiative: Make Sustainability Easy and Discourage "Trashing"							
C1	Prior to issuing new contracts, evaluate the sustainability of the existing solid waste collection system and modify if necessary, considering:	S, M, L	Y	Y	Y	Y	MED	LOW
C1.a	The effectiveness of the system;	M, L	Y	Y	Y	Y	LOW	LOW
C1.b	Customer satisfaction; and	M, L	Y	Y	Y	Y	LOW	LOW
C1.c	Effectiveness of the programs and policies in helping to meet and exceed the State's waste diversion mandates, other State and County priorities, and the disposal reduction targets established in this Roadmap.	M, L	Y	Y	Y	Y	MED	LOW
C2	Evaluate and implement, if feasible, alternative trash collection methods such as: reducing trash collection frequency; adjusting the size of bins; implementing a volume or weight-based trash collection system (pay as you throw); collecting additional organics in the green waste bin; and/or a two-bin collection system (wet and dry) processed at a MRF for separation and recovery.	L	Y	Y	Y	Y	HIGH	
C3	Explore and implement, if feasible, revisions to current and future Franchise and Garbage Disposal District waste hauler contracts to advance the goals of the Roadmap, while respecting existing contracts. Consider:	L				Y	MED	
C3.a	Eliminating the collection of unlimited quantities of waste.	M				Y	MED	
C3.b	Creating incentives or requirements to meet specific diversion standards (e.g. 80% by 2025).	L				Y	MED	
C3.c	Developing incentives for local disposal to nearest landfill or alternatives to landfills.	L				Y	MED	
C3.d	Revising or eliminating Garbage Disposal Districts including possibly converting the residential or commercial customers to the franchise system.	L				Y	MED	
C4	Explore and implement, with the concurrence of residents and businesses, modification to the County Code to include warnings and penalties for not recycling, and create a mechanism to monitor and enforce recycling (e.g., cameras on waste collection vehicles).	S					LOW	MED
C5	Create and support an innovative "Tech Lab" incubator for reuse/recycle enterprise development.							
C6	Research the feasibility of implementing product bans or disposal bans where sustainable alternatives are readily available and reasonable.	S					LOW	
C7	Encourage additional recycling receptacles to be placed and maintained in business corridors, especially adjacent to existing public trash receptacles.	S					LOW	
D	Initiative: Recover Organics, including Food Waste, to the Highest and Best Uses							
D1	Collaborate with waste haulers to develop organics collection and diversion programs in County Unincorporated Communities, where feasible.	L	Y	Y	Y	Y	LOW	MED
D2	Explore and implement, if feasible, Food DROP for unused edibles.	M	Y	Y	Y	Y	MED	MED
D2.a	Create a database of large food waste generators such as restaurants, cafeterias, hotels, and large event venues in County Unincorporated Communities.	S					LOW	
D2.b	Explore and establish partnerships with food service providers, businesses, or non-profits for development and operation of Food DROP.	M		Y	Y		MED	
D2.c	Educate businesses on Bill Emerson Good Samaritan Food Donation Act to address liability concerns.	S		Y			MED	
D3	Research the feasibility of a mobile organics collection system for specific events like concerts and large picnic events.	M	Y	Y			MED	
D4	Consider establishing an ordinance for the food service industry to provide compostable take-out containers and utensils, once options to compost or recover such materials are widely available.	M	Y	Y	Y	Y	MED	LOW
E	Initiative: Maximize Diversion of Construction and Demolition (C&D) Debris							
E1	Revise the Construction and Demolition (C&D) Recycling and Reuse Ordinance to:	S	Y	Y	Y	Y	LOW	MED
E1.a	Match new requirements established by the County's Green Building Ordinance and State Green Building Code and incorporate more green building standards.	S					LOW	
E1.b	Increase the diversion requirement to 70 percent for mixed C&D, 100 percent for all asphalt and concrete, unpainted wood, glass, sediment, and green waste.	S					LOW	
E2	Consider incentives to promote deconstruction and the use of salvaged materials.	S					LOW	
E2.a	Prepare deconstruction services guide.	S					LOW	
E2.b	Support used building materials outlets and stores as well as Resource Recovery Centers at landfills and transfer stations that serve the unincorporated areas of the County.	S			Y	Y	LOW	
E3	Support historic preservation and those seeking to restore and reuse buildings, include "adaptive reuse" as a priority in building standards and encourage the remodeling or repurposing of buildings that are still functional.	M		Y	Y		LOW	
Strategy 2: Measuring Results								
A	Initiative: Waste Sector Assessment							
A1	Conduct assessment of waste sectors that are sending waste to disposal facilities.	S	Y	Y	Y	Y	MED	MED
A1.a	Conduct regular Waste Characterization Studies for entire County Unincorporated Communities (all sectors) at 5-10 year intervals to determine material types being disposed which could ultimately be recycled. Include MRFs and transfer stations, as well as self-haul, scavenging, and recycling drop off centers to determine accurate generation and diversion rates.	S					LOW	

APPENDIX C

County Unincorporated Communities Policy & Program Options

		Stakeholders*						Costs
		Time Frame	Resident	Business	Other Public Agency**	Waste Hauler/Operator	Start-up cost	Annual costs
A1.b	Conduct smaller sample audits of material types disposed that could be recycled, using hauler loads where feasible.	S				LOW		
A1.c	Assess the proportion of the waste that the County controls (e.g. through its franchise system) and quantities of recycling and organic waste diversion.	S				LOW		
A1.d	Examine the level of detail available in assessing the quantities from the various waste sectors.	S				LOW		
A1.e	Assess drivers that result in open market/self haulers sending waste to disposal.	S				LOW		
A1.f	Partner with academia to help mine data collected from waste assessments.	S				LOW		
A2	Develop metrics for the movement of waste through the various stages of the solid waste management system, and model the system for the purpose of assessing how new programs could affect the flow of waste through the system.	M				MED	MED	
A3	Account for scavenging and non-curb-side recycling at recycling centers.	M				MED		
A4	Collaborate with organizations to offer waste stream studies to large businesses.	S				MED		
A4.a	Build partnerships with hospitals, schools, hotels, and large manufacturers.	S				MED		
B	Initiative: Evaluate and Measure the Success of Existing Programs and Consider New Programs							
B1	Create a separate framework/template to monitor and measure the success of each new proposed program or initiative as well as existing programs.	S				LOW		
B1.a	Obtain feedback from residents and businesses on existing programs prior to implementing new policies and standards.	S	Y	Y		LOW		
B2	Establish benchmarks tied to waste reduction goals – disposal, recycling, other diversion.	S				LOW		
B2.a	Look into ways to get more data for recycling and waste reduction such as collaboration with haulers and materials collection and processing facilities.	S			Y	LOW		
B2.b	Develop a tracking tool to measure and assess source reduction.	M				MED		
B3	Analyze the lifecycle effects of non-recyclable, single-use materials (i.e. consumer rubber products, packaging, etc.) and recycled materials.	M				MED		
B3.a	Partner with a research institution/university for assistance with lifecycle assessments.	M		Y		MED		
B3.b	This lifecycle assessment would be the basis for future action by the County to phase out or ban these materials.	L				MED		
B4	Create an Environmental Benefits Calculator for additional evaluation and benchmarking of programs or initiatives to recognize external benefits and successes such as greenhouse gas (GHG) reductions and water conservation.	M				MED		
C	Initiative: Ensure Sustainable Funding and Alignment of Incentives with Program Goals							
C1	Annually review program expenditures and revenues to ensure efficiencies and sustainable funding.	S				LOW	MED	
C2	Evaluate and modify, if needed, existing revenue streams such as the Solid Waste Generation Service charge (SWGSC), to mitigate funding lost from waste reduction efforts, and align incentives with waste reduction goals.	M, L			Y	MED		
C2.a	Identify funding mechanisms/sources for current programs, and estimate future revenues from those sources.	S			Y	MED		
C2.b	If revenues are projected to decline and programs cannot be realigned to mitigate this impact, identify options to augment revenue streams or accomplish the goals of the programs through other mechanisms, in order to ensure adequate funding is available to carry out programs and policies.	M, L			Y	MED		
C3	Identify options for program funding adjustments that incentivize recycling and fund diversion programs, in compliance with Prop 218 and Prop 26, as applicable.	S	Y	Y	Y	LOW		
C4	Advocate for EPR to reduce County costs for collecting abandoned materials in road right-of-ways, such as paint, carpet, furniture, and mattresses.	M		Y		MED		
C4.a	Realize savings from program efficiencies and efforts such as EPR to ensure sustainable program funding.	L				LOW		
C5	Explore grant funding and loans to augment program funding.	S				LOW		
C6	Evaluate the financial impact of scavenging to recycling programs, and identify options to reduce the incidence of scavenging.	S				LOW		
Strategy 3: Facilities and Infrastructure								
A	Initiative: Develop Conversion Technologies and Integrated Materials Recovery Facilities							
A1	Establish a streamlined and coordinated County permitting process for essential waste management facilities that are environmentally safe and technically feasible located in County Unincorporated Communities, including conversion technologies, material recovery facilities (MRFs), C&D processing facilities, transfer stations, etc.	M		Y	Y	MED		
A2	Develop educational pilot projects in County Unincorporated Communities to demonstrate the benefits and safety of conversion technologies.	L				HIGH	LOW	
B	Initiative: Organics Processing Infrastructure							
B1	Evaluate options to encourage the development of local organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations, to assist businesses in the County Unincorporated Communities with AB 1826 compliance.	S				LOW	MED	
B1.a	Identify businesses that generate large amounts of food or green waste.	S		Y		LOW		
B1.b	Investigate opportunities to develop micro-composters or digesters in County unincorporated areas at large community venues/facilities such as schools, restaurants, grocery stores, etc.	S		Y	Y	LOW		
B1.c	Investigate community digesters for food waste that cannot be donated.	S	Y	Y	Y	LOW		
B1.d	Work with County CEO Real Estate Unit to identify possible sites for anaerobic digestion facilities.	S				LOW		
B1.e	Investigate opportunities to develop organics diversion facilities at landfills located in County Unincorporated Communities.	S			Y	LOW		
B2	Partner with select County Unincorporated Communities to institute pilot compost programs that can be replicated on a broader scale if successful.	M	Y	Y	Y	MED	MED	
C	Initiative: Local Green Business & Market Development							
C1	Seek and encourage new green businesses and remanufacturing facilities to locate in the County Unincorporated Communities.	M		Y		LOW		
C2	Determine how to incentivize the use of recycled products or re-use for businesses.	S		Y		LOW		
C2.a	Seek out and promote grant funding for green businesses.	S		Y		LOW		
C3	Incorporate provisions to ensure the availability of a viable market for materials removed during sediment basin cleanouts.	M		Y	Y	LOW		
D	Initiative: Resource Recovery Centers and “Re-stores” in the Unincorporated Area							
D1	Explore adoption of an ordinance or policy to develop Resource Recovery Centers, as described in the Priority Issues section, at all transfer stations and landfills in the unincorporated area.	L			Y	MED	LOW	
D2	Explore processing of self-haul loads at transfer stations serving the County Unincorporated Communities.	M			Y	MED		
D3	Support private sector investment in Resource Recovery Centers for self-haul customers.	M		Y	Y	LOW		
D4	Support siting of re-stores in County Unincorporated Communities throughout the County.	M				LOW		
Strategy 4: Outreach and Education								
A	Initiative: Communication Action Plan							
A1	Develop an outline for a unique communication plan, focused at the unincorporated community level based on demographics, resources, and commercial and industrial businesses in the targeted areas.	S				MED	MED	
A1.a	Initiate a unifying slogan such as “Don’t Waste Your Waste” in the outreach campaign, promoting the Four R’s (Reduce, Reuse, Recycle, Rethink) to effect behavioral change in residents and businesses.	S				MED	MED	
A1.b	Include face-to-face and targeted communication as part of the plan.	S	Y	Y				
A1.c	Communication plan will focus on the 11 Planning Areas identified in the County General Plan, to encourage maximum participation by the community.	S	Y	Y		LOW		
A2	Establish partnerships to build on and promote other sustainability programs.	S				LOW		

APPENDIX C

County Unincorporated Communities Policy & Program Options						Stakeholders*		Costs
		Time Frame	Resident	Business	Other Public Agency**	Waste Hauler/Operator	Start-up cost	Annual costs
A3	Create more opportunities for effective communication with businesses and residents through social media (Blog posts, Twitter, Youtube, Instagram, Facebook, Pinterest, Tumblr, etc.).	S					LOW	MED
A4	Conduct surveys, organized by regions, to determine program effectiveness and solicit feedback.	S	Y	Y			LOW	MED
A5	Educate businesses on recycling programs that can help them reduce their disposal costs and increase their recycling rate.	S	Y	Y			LOW	
A6	Educate the public on policy issues relative to sustainability.	S		Y			LOW	
A6.a	Produce one or more short videos to get the message out to the public.							
A6.b	Partner with town councils, homeowners associations, chambers of commerce, faith-based organizations, etc. to get messaging out.							
A7	Educate the public on the environmental benefits and safety of conversion technology facilities and inform them of successful conversion projects.	S	Y	Y			LOW	
A8	Develop a social marketing program to find the best means to encourage people to use public recycling bins. Use a "Community-Based Social Marketing" style of analysis and focus groups to measure results and implement pilot programs.	S	Y	Y			LOW	
A9	Develop an awareness campaign identifying problematic products (such as household hazardous waste, disposable diapers and other single-use or hard-to-recycle items) and promote alternatives.	S	Y	Y			LOW	
B	Initiative: Stakeholder Engagement & Empowerment							
B1	Incorporate incentives, awards, contests, etc. to encourage program participation by residents and businesses.	M	Y				LOW	
B2	Create an interactive website with a forum for residents to report their individual sustainability projects or personal waste reduction efforts.	M	Y				LOW	
B3	Sponsor an annual Business Zero Waste Workshop, with featured speakers from various zero-waste businesses demonstrating how to implement waste reduction programs in the workplace and how to measure progress.	M			Y		MED	
B4	Host planning workshops with waste haulers, businesses, multi-family complex owners, and other stakeholders to solicit feedback and foster collaboration.	S	Y		Y		LOW	
B5	Collaborate with County Unincorporated Communities during development of each implementation plan to encourage a broad commitment. Cultivate partnerships with like-minded entities to maximize education and outreach capabilities.	S		Y			MED	
B6	Coordinate recycling events such as a fashion show or art show utilizing recycled and/or repurposed materials.	S	Y	Y	Y	Y	MED	
B7	Develop case studies of model sustainability programs and promote best practices.	S	Y	Y	Y		LOW	
B8	Incorporate multiple languages (Arabic, Armenian, Chinese, Farsi, Korean, Spanish, Tagalog, Vietnamese, etc.) in educational and outreach efforts.	S	Y				LOW	
B9	Support the formation of "Green Teams" (groups representing chambers of commerce, property managers, faith community, schools, etc.) and encourage them to work with their networks to pursue Zero Waste.	S					LOW	
B10	Establish a "Sustainable Community Leader" award for unincorporated County residents and businesses. Residents and businesses would be recognized for taking initiative to reduce, reuse, recycle, and compost in their home or business.	S	Y	Y	Y	Y	LOW	MED

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**Other Public Agency refers to cities, Sanitation Districts, Solid Waste Management Task Force, water agencies, etc.

	Low	Med	High
Capital Cost	<500K	500K-5mil	>5mil
Annual Cost	<100K	100K-1mil	>1mil
	Short Term (S)	Mid Term (M)	Long Term (L)
Time Frame	< 2 yrs.	2-6 yrs.	6+ yrs.

APPENDIX C

Regional/Countywide Policy & Program Options

		Stakeholders*						Costs
		Time Frame	Resident	Business	Other Public Agency**	Waste Hauler/Operator	Start-up cost	Annual costs
Strategy 1: Quality Programs and Services								
A	Initiative: Institutionalize Waste Prevention and Source Reduction							
A1	Evaluate with local municipalities and other public agencies opportunities to implement policies, such as EPR Ordinances.	M		Y	Y		MED	
A2	Share County purchasing guides with schools and other jurisdictions, as applicable.	M		Y	Y		MED	
A3	Evaluate reuse programs.	L			Y		MED	
A3.a	If found feasible and implemented in County Unincorporated Communities, encourage cities to assign redemption fees on items other than existing CRV beverage containers and expanding the list of CRV beverage containers to boost recycling and reuse (e.g. glass wine or liquor bottles).	L			Y		MED	
A3.b	Explore with local municipalities and other public agencies the most effective methods for them to implement and enforce policies such as bans, requirements, or ordinances. For policies determined to be more effective at a regional or Statewide level, encourage collaboration among cities and/or support legislation, as was done for the County's policy to reduce plastic bag litter.	L			Y		MED	
B	Initiative: Advocate for Extended Producer and Manufacturer Responsibility							
B1	Be a strong advocate with partner agencies and municipalities for EPR policy, legislation and programs regionally, statewide and nationally, particularly to drive improvements in product design that are environmentally sustainable.	S		Y			LOW	
B2	Encourage cities within the County to adopt by resolution any County EPR ordinances, once established, in order to improve the benefits and economies of scale of such ordinances.	M	Y	Y	Y		LOW	
C	Initiative: Recover Organics, including Food Waste, to the Highest and Best Uses							
C1	Utilize the existing Smart Gardening program to promote the diversion of organic waste Countywide.	S		Y			LOW	MED
C1.a	Provide food waste educational opportunities and composting resources for multi-family residents.	M	Y	Y			LOW	
C1.b	Establish a network of community gardens and facilities for composting of food/yard waste, and utilize this local network of micro-composters to produce compost from food and yard waste, which can be used for backyards and gardens at the neighborhood level.	M	Y	Y			MED	MED
C2	Partner with School districts to ensure that every school in Los Angeles County has a garden.	L	Y	Y	Y	Y	LOW	MED
C3	Explore and implement, if feasible, Food DROP for unused edibles.	M	Y	Y	Y	Y	MED	MED
C3.a	Explore and establish partnerships with food service providers, businesses, or non-profits for development and operation of Food DROPs on a regional basis.	M		Y	Y		MED	
D	Initiative: Maximize Diversion of Construction and Demolition (C&D) Debris							
D1	Make the revised Construction and Demolition (C&D) Recycling and Reuse Ordinance available to other jurisdictions as a template for adoption.	S	Y	Y	Y	Y	LOW	MED
E	Initiative: Maximize diversion of Household Hazardous Waste (HHW) and Electronic Waste (E-Waste)							
E1	Work with cities and landfill operators to increase the number of permanent HHW and E Waste collection centers where feasible.	M			Y	Y	HIGH	MED
E1.a	Determine how many centers would be needed along with expected upfront and operating costs.	S					LOW	
E1.b	Identify potential locations convenient to the community to increase participation and reduce amount of toxic materials improperly disposed.	S					LOW	
E2	Consider establishing swap stations for reusable products dropped off at permanent centers.	M	Y	Y			MED	MED
E3	Maintain agreement with PaintCare to collect and recycle residential consumer paint.	S	Y	Y			LOW	LOW
E4	Explore and implement, if feasible, a curbside HHW and E-Waste collection program.	M	Y	Y		Y	MED	MED
Strategy 2: Measuring Results								
A	Initiative: Evaluate and Measure the Success of Existing Programs and Consider New Programs							
A1	Create a separate framework/template to monitor and measure the success of each new proposed Countywide program or initiative, as well as existing programs.	S	Y	Y	Y		LOW	
A1.a	Obtain feedback from residents, businesses, jurisdictions and other partners, including municipalities and special districts, on existing programs prior to implementing new policies and standards.	S	Y	Y	Y		LOW	
A2	Establish benchmarks tied to waste reduction goals – disposal, recycling, other diversion.	S					LOW	
A2.a	Encourage partner agencies to obtain and share more data for recycling and waste reduction, such as through collaboration with haulers and materials collection and processing facilities.	S				Y	LOW	
A2.b	In cooperation with partner agencies, develop tracking tools to measure and assess source reduction.	M					MED	
B	Initiative: Ensure Sustainable Funding and Alignment of Incentives with Program Goals							
B1	Annually review program expenditures and revenues for Countywide programs to ensure efficiencies and sustainable funding.	S					LOW	MED
B2	Evaluate and modify, if needed, existing revenue streams such as the Countywide Solid Waste Management Fee, to mitigate funding lost from waste reduction efforts, and align incentives with waste reduction goals.	M, L				Y	MED	
B2.a	Identify funding mechanisms/sources for current programs, and estimate future revenues from those sources.	S				Y	MED	
B2.b	If revenues are projected to decline and programs cannot be realigned to mitigate this impact, identify options to augment revenue streams or accomplish the goals of the programs through other mechanisms, in order to ensure adequate funding is available to carry out programs and policies.	S				Y	MED	
B3	Identify options for program funding adjustments that incentivize recycling and fund diversion programs, in compliance with Prop 218 and Prop 26, as applicable.	S	Y	Y		Y	LOW	
B4	Explore grant funding and loans to augment program funding, identify jurisdictions, agencies and non-profits to partner with on grant applications for regional programs and efforts to increase opportunities to obtain funding.	S, M			Y		MED	
B5	Advocate for EPR to reduce County costs for operating collection programs at the Regional/Countywide level targeting "take back" materials such as paint, pharmaceuticals, carpet, furniture, and mattresses.	M		Y			MED	
B5.a	Realize savings from program efficiencies and efforts such as extended producer responsibility to ensure sustainable program funding.	L					LOW	
Strategy 3: Facilities and Infrastructure								
A	Initiative: Develop Conversion Technologies and Integrated Materials Recovery Facilities							
A1	Work with State and regional agencies, such as CalRecycle, the Regional Water Quality Control Board, and the South Coast Air Quality Management District (AQMD), to streamline the permitting process for essential waste management facilities that are environmentally sound and technically feasible, including conversion technologies, material recovery facilities (MRFs), C&D processing facilities, transfer stations, etc. at the regional and State level.	M			Y	Y	MED	
A2	Continue to sponsor and support legislation to encourage the environmentally sound development of conversion technologies and build a coalition of organizations to do so.	S					LOW	MED
A3	Evaluate options to establish incentives in order to level the cost differential between conversion technology facilities and landfills, or otherwise incentivize waste haulers to direct waste to such facilities.	S, M				Y	LOW	
A4	Increase awareness of the www.SoCalConversion.org website as a one-stop portal for information regarding local project development, local ordinances, permitting processes, and general information and resources related to conversion technology development.	S					LOW	

APPENDIX C

Regional/Countywide Policy & Program Options

Regional/Countywide Policy & Program Options			Time Frame		Stakeholders*					Costs
			Resident	Business	Other Public Agency**	Waste Hauler/ Operator	Start-up cost	Annual costs		
B	Initiative: Organics Processing Infrastructure									
B1	Evaluate opportunities to encourage the development of regional organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations.		S				LOW	MED		
B1.b	Explore opportunities for co-digestion of source-separated commercial organics at wastewater treatment plants with excess digester capacity.		S		Y	Y	Y	LOW		
C	Initiative: Local Green Business & Market Development									
C1	Work with partner cities in the County Recycling Market Development Zone (RMDZ) to encourage new green businesses and remanufacturing facilities to locate in Los Angeles County.		M		Y	Y		LOW		
C2	Continue to seek opportunities to expand the RMDZ to include additional interested cities in Los Angeles County.		M			Y		LOW		
D	Initiative: Resource Recovery Centers and “Re-stores”									
D1	Partner with the Sanitation Districts of Los Angeles County and municipalities in the County to facilitate the development of Resource Recovery Centers, as described in the Priority Issues section, at all publically-owned transfer stations and landfills.		L			Y	Y	MED		
E	Initiative: Emergency Management – Debris Management Plan									
E1	Update County's Debris Management Plan to maximize diversion of materials following emergencies and disasters.		S					LOW		
E1.a	Include a list of as-needed emergency debris removal service contracts for handling disaster debris generated in the County Unincorporated Communities and contract Cities.		S		Y	Y	Y	LOW		
E1.b	Identify temporary storage areas for interim stockpiling of disaster debris for recycling.		S			Y	Y	LOW		
E1.c	Update the list of recycling and disposal facilities for managing disaster debris.		S				Y	LOW		
E1.d	Ensure debris management practices include good-faith efforts to source separate, reuse and recycle materials to the extent feasible.		S					LOW		
E1.e	Clarify lines of responsibility for various agencies.		S			Y		LOW		
Strategy 4: Outreach and Education										
A	Initiative: Communication Action Plan									
A1	Develop an outline for a broad communication plan, promoting the Four R's (Reduce, Reuse, Recycle, Rethink) to inspire behavioral change in residents and businesses.		S					MED	MED	
A1.a	Include face-to-face and mass media communication as part of the plan.		S					MED	MED	
A1.b	Brand the campaign slogan (e.g. "Don't Waste Your Waste") and encourage cities to adopt and include in their websites as a consistent slogan.		S			Y		LOW		
A1.c	Establish partnerships to build on and promote other sustainability programs, and partner with other jurisdictions or agencies, as appropriate, to leverage resources and amplify the message of sustainability.		S					LOW	MED	
B	Initiative: Stakeholder Engagement & Empowerment									
B1	Partner with universities and community colleges in the County to establish green workforce training programs and assist with data mining.		M			Y		MED		
B2	Expand the Generation Earth Battle of the School program and encourage all schools serving the County Unincorporated Communities to participate.		M			Y		MED		

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Annual Cost	<100K	100K-1mil	>1mil
	Short Term (S)	Mid Term (M)	Long Term (L)
Time Frame	< 2 yrs.	2-6 yrs.	6+ yrs.

APPENDIX C

County Operations Policy & Program Options

County Operations Policy & Program Options		Stakeholders*							Cost
		Time Frame	Resident	Business	Other Public Agency**	Waste Hauler/Operator	Start-up cost	Annual costs	
Strategy 1: Quality Programs and Services									
A	Initiative: Institutionalize Waste Prevention and Source Reduction								
A1	Identify areas of excess waste at County facilities and operations and create source reduction policies within the framework of the County's budget.	S					LOW		
A2	Develop templates for programs and policies and implement them at County facilities and operations.	S					LOW	MED	
A3	Provide technical assistance, training, financing, and other resources for County Departments to ensure their success	S					LOW	LOW	
A4	Evaluate County purchasing practices:	S						LOW	
A4.a	Find ways to save money and reduce the purchase of excess food, paper, and other supplies that may be wasted and disposed of at landfills. Provide a web-based inter-department materials exchange for office supplies and equipment. Remove barriers to donating unwanted or excess materials.	M		Y			LOW		
A4.b	Review and make enhancements to the County's Green Purchasing Policy to purchase products that are recyclable, compostable, reusable, repairable, and locally manufactured or grown. Publish a list of products that meet these standards.	S							
A4.c	Identify opportunities for Countywide purchasing initiatives for recyclable or compostable service ware (or other items that may be more expensive than the hard to recycle items).	S		Y	Y		LOW		
A5	Establish a Paperless Office Initiative at County facilities where feasible, incorporating e-communication as much as possible.	M					LOW	LOW	
A6	Explore and, if feasible, develop and implement more aggressive reuse programs.	S	M	L					
A6.a	Consider policies to discourage single-use water bottles in favor of reusable water bottles; Incorporate hydration stations at County facilities to encourage employees and visitors to bring reusable water containers.	M					MED	LOW	
A6.b	Incorporate bulk dispensers at County facilities with cafeterias for commonly purchased items such as milk, soda, juice, and condiments to eliminate waste of individual packaged items.	M					MED	LOW	
A6.c	Organize a once a month "swap yours for mine" event for employees to bring items that they would like to swap with other employees or donate.	S					LOW	LOW	
A6.d	Suggest replacement systems for reducing certain materials (e.g. tablets to facilitate a paperless office).	M					MED	LOW	
B	Initiative: Advocate for Extended Producer and Manufacturer Responsibility								
B1	Incentivize EPR, such as reduced packaging, in County procurement and contracts, giving consideration to vendors who utilize EPR.	S		Y			LOW		
C	Initiative: Make Sustainability Easy and Discourage "Trashing"								
C1	Provide for recycling at public venues, wherever feasible and funded, such as beaches, libraries, hospitals, and parks and internal County functions and employee events; provide more public recycling receptacles placed adjacent to public trash receptacles.	M	Y	Y	Y	Y	HIGH	MED	
C2	Provide waste reduction technical assistance to large County venues and events.	S					LOW	MED	
C3	Enhance the County Recycling Coordinator program and develop standardized reuse and recycling processes.	S					LOW		
D	Initiative: Recover Organics, including Food Waste, to the Highest and Best Uses								
D1	Explore and implement, if feasible and funded by the Board through a department's annual budget appropriations, food waste/organics collection, food drops, and composting programs at specific County facilities.	M			Y	Y	MED	MED	
D1.a	Identify largest generators of food and green waste among County facilities.	S					LOW		
D1.b	Create a pilot program to be a model program that would be implemented at other County facilities.	M			Y		HIGH	MED	
D2	Encourage and incentivize organics collection or onsite management at venues with cafeterias such as schools, hospitals, and detention centers.	L		Y	Y	Y	LOW	MED	
D3	Research the feasibility of a mobile organics collection system for specific events like concerts and large picnic events.	M		Y	Y	Y	LOW		
E	Initiative: Maximize diversion of Construction and Demolition (C&D) Debris								
E1	Revise the Construction and Demolition (C&D) Recycling and Reuse Ordinance to:	S	Y	Y	Y	Y	LOW	MED	
E1.a	Match new requirements established by the County's Green Building Ordinance and State Green Building Code and incorporate more green building standards.	S					LOW		
E1.b	Increase the diversion requirement to 70 percent for mixed C&D, 100 percent for all asphalt and concrete, unpainted wood, glass, sediment, and green waste.	S					LOW		
E1.c	Include standards for County facilities and projects.	S					LOW		
E2	Require maintenance contracts to increase longevity of materials, such as carpet, upholstery and furniture used at County facilities.	M		Y			MED	LOW	
E3	Provide incentives for green buildings, and update the County green building policy to provide incentives for use of products that are more durable, have a longer lifespan, require no additional finishing on-site, have less frequent maintenance and repair cycles, and give credits for products made from recycled content.	M		Y	Y		LOW	MED	
Strategy 2: Measuring Results									
A	Initiative: Waste Sector Assessment								
A1	Develop a methodology, schedule, and budget to conduct waste generation and disposal surveys at County operations.	S					LOW		
A2	Develop metrics for the movement of waste through County operations, and model the system for the purpose of assessing how new programs could affect the flow of waste through the system.	M					MED	MED	
B	Initiative: Evaluate and Measure the Success of Existing Programs and Consider New Programs								
B1	Create a framework to monitor and measure the success of waste reduction programs targeted at County facilities.	S					LOW		
B2	Establish benchmarks tied to waste reduction goals – disposal, recycling, other diversion.	S					LOW		
B2.a	Look into ways to get more data for recycling and waste reduction such as collaboration with haulers and materials collection and processing facilities.	S				Y	LOW		
B2.b	Develop a tracking tool to measure and assess source reduction.	M					MED		
B3	Incorporate sustainability practices and measurement in future County contracts.	S, M					MED		
C	Initiative: Ensure Sustainable Funding and Alignment of Incentives with Program Goals								
C1	Review and revise County contracts, such as waste collection franchises, Garbage Disposal Districts, and facility permits to create incentives to reduce waste, such as requiring green waste diversion in landscaping and tree trimming contracts.	L				Y	MED		
C2	Combine or consolidate shared services and logistics across County departments to reduce operational costs.	S					LOW		
C3	Involve key County departments including the Chief Executive Office, Public Works, Internal Services and other affected department(s) to identify County funding options during the budget cycle to implement County facility initiatives.	S					LOW		
C4	Explore incentivizing departments to create budgetary savings in solid waste management that, with CEO concurrence and Board approval, could be redirected to a department's operating budget for main mission services and programs.	M					MED		
Strategy 3: Facilities and Infrastructure									
A	Initiative: Develop Conversion Technologies and Integrated Materials Recovery Facilities								
A1	Develop educational pilot projects, as funding is identified, at County facilities to demonstrate the benefits and safety of conversion technologies.	L					HIGH	LOW	

APPENDIX C

County Operations Policy & Program Options

		Stakeholders*					Cost
		Time Frame	Resident	Business	Other Public Agency**	Waste Hauler/Operator	Start-up cost
							Annual costs
A2	Develop guidelines for utilizing byproducts generated through alternative technology facilities for beneficial purposes at County facilities and in County projects.	S				LOW	
B	Initiative: Organics Processing Infrastructure						
B1	Establish guidelines and enable County facilities that are large-quantity food waste generators to do their own composting where feasible.	L				MED	
B1.a	Create a list of County facilities that generate large amounts of food or green waste.	S				LOW	
B1.b	Identify at least two micro-composter pilot project opportunities, including required funding, at County facilities that would foster interdepartmental collaboration and help meet the solid waste management needs of one or more large County departments.	M				LOW	
B1.c	Develop guidelines for utilizing locally-produced compost and mulch in County projects and at County facilities.	M				LOW	
B1.d	Investigate sites along with cost and permitting details to construct a County anaerobic digestion facility.	M				MED	
C	Initiative: Local Green Business & Market Development						
C1	Promote the use of recycled materials (e.g. glass, compost) generated from County operations at County facilities wherever feasible.	S				MED	
C2	Determine how to incentivize the use of recycled products or re-use for County operations.	S	Y			LOW	
Strategy 4: Outreach and Education							
A	Initiative: Stakeholder Engagement & Empowerment						
A1	Incorporate incentives, awards, contests, etc. to encourage employee participation in sustainability programs.	M	Y			LOW	
A2	Create an interactive website with a forum for Departments to report their individual sustainability projects or personal waste reduction efforts, including budgetary savings and efficiencies.	M	Y			LOW	
B	Initiative: Leadership in Sustainability						
C1	Work with County Departments to implement sustainable practices, where fiscally feasible, based on feedback from waste surveys.	M				HIGH	
C2	Encourage innovation by establishing a fund for composting projects or facilities to be developed by County departments or in consultation with private operators.	S	Y	Y		LOW	
C3	Provide training for staff in advance of any new initiative impacting County-owned or operated facilities.	S				MED	MED
C4	Establish an internal Sustainability Ambassador program for County employees to be responsible for monitoring recycling and composting bins in their designated work area and provide information on upcoming sustainability training available to County staff.	S				MED	MED
C4.a	Encourage recycling coordinators from each Department to meet routinely to share ideas, coordinate efforts, and provide progress reports.	S				LOW	MED
C4.b	Assign the Internal Services Department or a partner department to oversee waste reduction for Departments without facilities staff.	S				MED	MED
C5	Apply for a Productivity Investment Fund grant (or similar grant) to implement a pilot program within the County family to fully implement the Roadmap recommendations.	S				LOW	

*Public Works will be the lead agency with support from the Working Group

**Other Public Agency refers to cities, Sanitation Districts, Solid Waste Management Task Force, water agencies, etc.

	Low	Med	High
Capital Cost	<500K	500K-5mil	>5mil
Annual Cost	<100K	100K-1mil	>1mil
	Short Term (S)	Mid Term (M)	Long Term (L)
Time Frame	< 2 yrs.	2-6 yrs.	6+ yrs.

ATTACHMENT II



ROADMAP TO A SUSTAINABLE WASTE MANAGEMENT FUTURE *Fact Sheet*



Board Motion:

On April 22, 2014, the Board of Supervisors directed Public Works to establish a Working Group of County Departments and develop a Roadmap for the Unincorporated Areas of Los Angeles County to achieve a Sustainable Waste Management future. The Board wanted the Roadmap to include recommended strategies and disposal reduction targets.

"Zero Waste" or "Waste Free" is a design principle that goes beyond recycling to focus on reducing wastes and reusing products and then recycling, composting, and recovering energy from the remaining limited waste.

Purpose:

In order to effectively reduce disposal, the Working Group identified three focus areas: County Unincorporated Communities; Regional/Countywide; and County Operations. The Roadmap lays out a general framework of strategies and initiatives for each of the focus areas, which the County can implement to maximize recovery of products, materials, and energy from waste that would otherwise be disposed of in landfills.

Strategies:

The Roadmap identified these four strategies under each of the three focus areas:

Upon approval of the Roadmap by the Board,

- ❖ Quality Programs and Services
- ❖ Measuring Results
- ❖ Facilities and Infrastructure
- ❖ Outreach and Education

implementation plans will be developed for each strategy which will incorporate specific details on feasibility, costs, proposed funding, and timelines.

Key Drivers:

There are a number of key drivers leading the County to initiate this process towards a Waste Free Future:

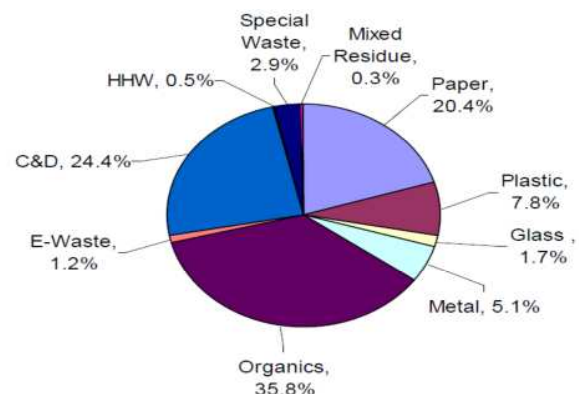
- ❖ Limited in-County disposal capacity
- ❖ State Legislation
 - AB 32: Greenhouse Gas Emissions
 - AB 1826: Commercial Organics Diversion
- ❖ Continuous goal to improve quality of life for County residents and businesses

Disposal Reduction Targets:

- ❖ The following intermediate and long-term disposal reduction targets are proposed for the County unincorporated Communities (CUCs) as ambitious but achievable milestones towards a Waste Free Future:

- ❖ **80 percent landfill diversion by 2025**
- ❖ **90 percent landfill diversion by 2035**
- ❖ **95+ percent landfill diversion by 2045**

In 2005, a waste characterization study found that the CUCs generated 2.9 million tons of waste, equivalent to 14.8 pounds per person per day (ppd). At the time, 50 percent of the waste was diverted from landfills, compared to a 1990 baseline. Currently, the CUCs dispose 4 ppd, achieving a 73 percent diversion rate compared to 2005 baseline. Below is a chart showing the components of the waste stream currently going to landfills:





ROADMAP TO A SUSTAINABLE WASTE MANAGEMENT FUTURE *Fact Sheet*



Within each strategy there are numerous draft initiatives and program and policy options, some of which are highlighted below:

COUNTY UNINCORPORATED COMMUNITIES

Maximize Diversion of Construction and Demolition (C&D) Debris

- ❖ Revise C&D debris ordinance to increase diversion requirements from 50 percent to 70 percent for mixed debris and 100 percent for asphalt and concrete.

Advocate for Extended Producer Responsibility

- ❖ Explore the feasibility of establishing a County EPR ordinance for materials such as pharmaceuticals, needles, carpet, mattresses, and battery management.

Waste Sector Assessment

- ❖ Conduct regular Waste Characterization Studies for unincorporated communities (all sectors) at 5–10 year intervals to determine material types being disposed which could ultimately be recycled.



Communication Action Plan

- ❖ Develop an outline for a broad communication plan focused at the unincorporated community level based on demographics, resources, and commercial and industrial businesses in the target areas.

Recover Organics, including Food Waste, to Highest and Best Uses

- ❖ Evaluate options to encourage the development of local organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations, to assist businesses in the County Unincorporated Communities with AB 1826 compliance.

REGIONAL/COUNTYWIDE

Enhance Household Hazardous Waste (HHW) and Electronic Waste Management.

- ❖ Increase number of permanent safe HHW collection centers.

Develop Conversion Technologies and Integrated Materials Recovery Facilities

- ❖ Establish a streamlined permitting process for such facilities.



Develop Resource and Recovery Centers and Re-Stores for Self-Haul Customers

- ❖ Explore adoption of an ordinance requiring Recovery Centers for self-haulers at all transfer stations in unincorporated areas.

COUNTY OPERATIONS

Evaluate County purchasing practices

- ❖ Find ways to save money and reduce the purchase of excess food, paper, and other supplies that may be wasted and disposed of at landfills.

Waste Sector Assessment

- ❖ Develop a methodology, schedule, and budget to conduct waste generation and disposal surveys at County operations.

Organics Processing Infrastructure at County Facilities

- ❖ Establish guidelines and enable County facilities that are large-quantity food waste generators to do their own composting, where feasible.



GAIL FARBER, Director

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

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October 21, 2015

IN REPLY PLEASE

REFER TO FILE: **EP-4**
A4118-1

TO: Each Supervisor

FROM: Gail Farber *Gail Farber*
Director of Public Works

**BOARD MEETING OF OCTOBER 21, 2014, AGENDA ITEM NO. 34
ROADMAP TO A SUSTAINABLE WASTE MANAGEMENT FUTURE
ANNUAL REPORT: OCTOBER 2014 THROUGH OCTOBER 2015**

On October 21, 2014, the Board adopted the Roadmap to a Sustainable Waste Management Future. The Roadmap lays out the general framework for the strategies and initiatives the County can implement in County Unincorporated Communities, Regional/Countywide, and at County Operations to decrease reliance on landfills.

The Board directed the Department of Public Works to submit annual reports to the Board on the progress of the implementation of the Roadmap to a Sustainable Waste Management Future, which was coordinated with the Roadmap Working Group consisting of 20 other departments.

Attached is a report in response to this Board action for the period of October 2014 through October 2015. If you have any questions regarding this report, please contact me or your staff may contact Shari Afshari at (626) 458-4008 or safshari@dpw.lacounty.gov.

VO:ak

H/ao/Roadmap Memo October 2015

Attach.

cc: Chief Executive Office (Sachi A. Hamai, Rochelle Goff)
County Counsel
Executive Office
All County Departments

2015

Report to the Board

Roadmap to a Sustainable Waste Management Future

Prepared by the following County Departments and Special Districts:

Agricultural Commissioner/Weights & Measures	Human Resources
Alternate Public Defender	Internal Services
Animal Care and Control	Medical Examiner – Coroner
Arts Commission	Office of Sustainability
Auditor-Controller	Parks and Recreation
Beaches and Harbors	Probation
Board of Supervisors	Public Health
Chief Executive Office	Public Works
County Counsel	Regional Planning
District Attorney	Sanitation Districts of L.A. County
Fire	Sheriff
Health Services	Treasurer and Tax Collector



October 21, 2015

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EXECUTIVE SUMMARY

On October 21, 2014, the Los Angeles County Board of Supervisors (Board) adopted the Roadmap to a Sustainable Waste Management Future (Roadmap). The Roadmap identifies three Focus Areas (County Unincorporated Communities, Regional/Countywide, and County Operations) and lays out the general framework for the strategies and initiatives that the Los Angeles County (County) can implement to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed at landfills.

The Board directed the Department of Public Works (Public Works) in coordination with the Interdepartmental Working Group (Working Group), including the Chief Executive Office (CEO), the Office of Sustainability, the Sheriff, and the Departments of Regional Planning, Internal Services (ISD), Public Health, Health Services, and the County Sanitation Districts, to develop implementation plans, as appropriate, for the strategies and initiatives within the Roadmap and to solicit feedback from stakeholders regarding the Roadmap. Additionally, the Board directed the Working Group to attain disposal reduction targets and submit annual reports to the Board on the progress of implementation.

Subsequent to the adoption of the Roadmap, the Working Group established four Implementation Subcommittees, one for each Focus Area and one for the Outreach and Education Priority Issue, to assist in the development of the implementation plans. The Implementation Subcommittees are comprised of various County Departments, the CEO, Board Office, and County Sanitation Districts.

The Roadmap identified 12 “priority issues.” During this first annual reporting period, the Working Group made significant progress on 11 of the 12 priority issues. The following is a highlighted summary of the progress to date for the priority issues:



Facilitating Sustainable Practices: Discussed ways to further increase our diversion rates to meet the disposal reduction targets identified in the Roadmap. Discussions have included evaluating alternate trash collection methods such as reducing collection frequency, adjusting the number of bins per customer, and analyzing whether to move toward an exclusive commercial franchise system from the current non-exclusive system, among many other topics.



Local Green Business & Market Development: Continued to serve as the Recycling Market Development Zone (RMDZ) program zone administrator for the County and helped connect businesses that manufacture products using recycled-content or process materials for recycling with financial and marketing assistance.



Waste Prevention and Source Reduction: Continued to promote the free Los Angeles County Materials Exchange (LACoMAX) program which helps residents, businesses, and organizations find an alternative to the disposal of unwanted materials at landfills. Currently developing a food waste prevention program.



Product Stewardship/Extended Producer Responsibility: In response to the Board’s June 2, 2015, motion, prepared a report investigating the feasibility of adopting an ordinance for a pharmaceutical and sharps waste Extended Producer Responsibility (EPR) ordinance in which pharmaceutical manufacturers and producers would develop a

take-back program. Following the Board's August 11, 2015, motion, the development of a draft ordinance is ongoing.



Organic Waste Management: Because organic waste is the largest component of the waste stream currently being disposed, organics waste management is addressed across all Roadmap Focus Areas and Strategies. A comprehensive Organics Management Plan describing the County's role and efforts to comply with Assembly Bill 1826 (AB 1826, Mandatory Commercial Organics Recycling) has been drafted, and we are beginning the process of identifying and educating businesses required to comply with AB 1826.



Conversion Technologies: Submitted a report to the Board on August 20, 2015, that included clear benchmarks for measuring progress towards establishing conversion technology projects within the County. Conversion technologies are critical to reducing our reliance on landfills and recovering energy, fuels, and other products from waste, and the report notes that conversion technology facilities are being successfully developed. The Working Group will continue to facilitate the development of these projects in the County, and Public Works is providing technical assistance, educating stakeholders, and working to remove regulatory barriers.



Household Hazardous and Electronic Waste: Completed feasibility study for constructing additional permanent collection centers at County-owned sites. Potential sites will be presented to management in the coming year to decide whether to pursue further.



Construction and Demolition (C&D) Debris: Drafted revisions to the County's C&D Debris Recycling Ordinance, and initiated preparations to meet with public stakeholders such as land developers, construction companies, demolition companies, C&D debris recycling facilities, and waste haulers, which are expected to take place later this year.



Resource Recovery Centers: Providing places to co-locate synergistic diversion-related activities continues to be a priority for the Working Group. However, it is a mid- to long-term priority that will be addressed in future years.



Emergency Management and Regional Debris Management Planning: Began preparations for a new Countywide Mass Debris Management Plan, which is currently being developed by a consultant and will be shared with all 88 cities upon its completion.



Assessment and Evaluation: In the process of initiating a waste characterization study for the County Unincorporated Communities, which is projected to begin in 2016. A draft Request for Proposals (RFP) has been completed and is expected to be finalized later this year.



Outreach and Education: Began tailoring communications and stakeholder engagement plans, as needed, for initiatives in the three Focus Areas and as part of the development of the various implementation plans. The goal is to communicate key initiatives effectively to the appropriate stakeholders and target audiences.

Additionally, the Working Group addressed the following strategies and initiatives for each of the three Focus Areas:

County Unincorporated Communities: Identifying the largest contributors of waste that are currently being disposed but could be diverted will help identify where resources, efforts, and programs are needed, which will have the greatest impact to achieve the County's disposal reduction targets established in the Roadmap. As a result, a major waste characterization study for the County Unincorporated Communities is projected to begin in 2016. A draft RFP to complete this study has been completed and is expected to be released by the end of 2015. Commercial, institutional, industrial, residential, multifamily, self-haul, and drop off are sub-sectors that identify where various waste streams are generated and where existing and new programs could be initiated, expanded, modified, or eliminated. Each sector has unique waste management practices that need to be examined to identify waste reduction opportunities and determine options for waste diversion processing.

Regional/Countywide: Much of the funding that is used to support Countywide programs comes from the Solid Waste Management Fund. As disposal of waste decreases, so does funding for programs. Options discussed included increasing landfill disposal fees, creating a tiered approach for waste processing fees, or creating a waste generation fee. Public Works will continue to seek grants and other funding opportunities.

A significant portion of the waste stream that is currently being disposed is comprised of organic materials. One alternative to landfilling organic waste is processing this material at a Conversion Technology (CT) facility. The County continues to encourage the development of commercial scale CT projects within the County. Working with various cities in the County, Public Works has developed a list of potential CT sites. Many projects within the County are in various stages of development.

County Operations – The Working Group is working to improve coordination between County Departments for waste reduction and recycling programs to clearly identify roles and responsibilities. In response to two mandatory recycling laws (AB 341 and AB 1826) which require commercial entities including government buildings to sign up for recycling services for materials such as paper, cardboard, plastic, metal, and organics, it is necessary to know the type of waste and how much is generated by County facilities. The laws specify which facilities must comply based on the amount and type of waste they generate per week. To facilitate this effort and to improve the recycling efforts, Public Works has developed a Commercial and Institutional Recycling Program (CIRP) contract for performing waste studies of County facilities and large venues. The purpose of CIRP is to help County facilities and other institutions to achieve large-scale waste diversion and generally enhance the sustainability of their activities related to materials management. For example, the program would assist entities to develop source reduction policies, environmentally sustainable practices, and zero waste goals.

Additionally, the expiration of service contracts provides an opportunity for improvements in terms of performance and reporting. Public Works is currently working with ISD to re-evaluate the scope of work for the existing waste hauling contracts for County Departments. This will help to determine the appropriate method for soliciting a new waste hauling contract which will meet the recycling and waste disposal needs of all County Departments.

INTRODUCTION/BACKGROUND

On October 21, 2014, the Los Angeles County Board of Supervisors (Board) adopted the Roadmap to a Sustainable Waste Management Future (Roadmap). The Roadmap identifies three Focus Areas (County Unincorporated Communities, Regional/Countywide, and County Operations) and lays out the general framework for the strategies and initiatives that the Los Angeles County (County) can implement to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed at landfills.

The Board directed the Department of Public Works (Public Works) in coordination with the Interdepartmental Working Group (Working Group) to develop implementation plans, as appropriate, for the strategies and initiatives within the Roadmap and to solicit feedback from residents, businesses, public agencies, the waste industry, environmental organizations, and other stakeholders regarding the Roadmap. The implementation plans will incorporate specific details on feasibility, costs, timeline, and proposed funding. Stakeholder engagement may be conducted during the development of the implementation plans, as appropriate, or prior to implementation of the appropriate strategies and initiatives. Additionally, the Board directed the Working Group to attain the following disposal reduction targets and submit annual reports to the Board on the progress of implementation:

- Divert 80 percent of waste from landfill disposal by 2025, equivalent to disposing no more than 3 pounds per person per day;
- Divert 90 percent of waste from landfill disposal by 2035, equivalent to disposing no more than 1.5 pounds per person per day; and
- Divert 95+ percent of waste from landfill disposal by 2045, equivalent to disposing no more than 0.75 pounds per person per day.

The Board also directed that the annual report serve to consolidate other solid waste management status reports including the Conversion Technologies in Los Angeles County Six-Month Status Update and the Status Report on Removal of Elsmere Canyon Landfill from the Los Angeles County Countywide Siting Element. These reports are included at the end of this annual report.

The purpose of the Roadmap is to provide general strategies for the County to achieve a sustainable waste management future and the disposal reduction targets identified above. The Roadmap identified the following four broad strategies for the three Focus Areas: (1) Programs and Services, (2) Measuring Results, (3) Facilities and Infrastructure, and (4) Outreach and Education. These four strategies establish a framework for the implementation of specific initiatives associated with the County Unincorporated Communities' residential and commercial sectors, Regional/Countywide infrastructure, and County operations, which include County-owned and/or operated facilities and offices as well as County-sponsored events.

In order to meet the objectives of the Roadmap and comply with current and future mandates, the Working Group established Implementation Subcommittees for each Focus Area and Outreach and Education. Each Implementation Subcommittee met monthly and supplemented their regular meetings with conference calls, webinars, and other forms of communication to accomplish its objectives. Identifying and reaching out to County Departments and other

organizations that are essential to specific initiatives has also been highly effective and has contributed to its inaugural year's accomplishments. A matrix summarizing the involvement of County Departments in the Roadmap's priorities is included as an appendix to this report (see Appendix A).

The County unincorporated area has been successful in reducing and diverting solid waste from landfills. Its per capita disposal rate are in compliance with the requirements of Assembly Bill (AB) 939 (50% diversion) and Senate Bill 1016 7.4 pounds generated per resident per day (ppd) and continues to decline from 5.15 in 2008 to 3.92 (74% diversion) in 2014. While some of this may be attributed to a slow economy, we believe the County's aggressive efforts and implementation of a vast array of waste reduction, recycling, and public education programs have made a significant difference.

The following report expands on the Roadmap's progress and accomplishments in its initial year of implementation. The Roadmap includes over 100 short- to long-term initiatives to recover organics, including food waste, to highest and best uses; advocate for extended producer responsibility; evaluate County purchasing practices; develop conversion technologies and integrated materials recovery facilities, and much more. This report focuses on the initiatives with significant progress this year.

PRIORITY ISSUES

Facilitating Sustainable Practices

The County has made great progress in recycling and waste diversion options; for example the 3-bin system of trash collection that includes curbside recycling and green waste collection is now nearly universal throughout the County Unincorporated Communities. Since adoption of the Roadmap, the Working Group and Implementation Subcommittees have had several productive discussions on ways to further increase our diversion rates to meet the disposal reduction targets identified in the Roadmap. These discussions have included looking into alternate trash collection methods, such as reducing collection frequency, adjusting the number of bins per customer, analyzing whether to move toward an exclusive commercial franchise system from the current non-exclusive system, among many other topics. Another very big challenge that has been discussed is having sustainable funding to support such efforts, since a large part of the funding for these activities currently is based on the Solid Waste Management Fee collected as disposal volume decreases so will the funding.

Local Green Business & Market Development

Local Green Business & Market Development: The State of California has a program titled the Recycling Market Development Zone (RMDZ) where County staff serves as the zone administrator for the County including the unincorporated County areas as well as 19 member cities. The RMDZ program combines recycling with economic development to fuel new businesses, expand existing ones, create jobs, and divert waste from landfills. This program provides attractive loans, technical assistance, and free product marketing to businesses that use materials from the waste stream to manufacture their products and are located in a zone. In August 2015, a \$2.0 million loan was approved for U.S. Corrugated of Los Angeles, Inc., a local company, which may now purchase equipment for the new corrugated packaging manufacturing facility in the City of Santa Fe Springs. Local green business and market development efforts during this reporting period are discussed in further detail under the Regional/Countywide section of this report.

Waste Prevention and Source Reduction

The United States Environmental Protection Agency (USEPA) defines source reduction as activities designed to reduce the volume or toxicity of waste generated including the design and manufacture of products with minimum toxic content, minimum volume of material, and/or a longer useful life. Source reduction is fundamentally different from the other waste management approaches. It is at the top of the County's resource management hierarchy because it is considered to be more effective and yield the highest benefits from an environmental, economic, and social standpoint. Finding opportunities to remove barriers to donating unwanted or excess materials at County Departments will help to prevent waste. The Los Angeles County Materials Exchange (LACoMAX) program is designed to help residents, businesses, and organizations find an alternative to the disposal of unwanted excess materials at landfills. Details on the waste prevention efforts are discussed in further detail under the County Unincorporated Communities section.

Product Stewardship/Extended Producer Responsibility

Extended Producer Responsibility (EPR) is a policy approach in which a manufacturer or producer's responsibility, including cost for a product, is extended to the post-consumer stage of a product's life cycle. EPR provides incentive for producers to design their products in a less hazardous and/or easier to manage/recyclable manner at the end of their useful life. In 2008, a Board motion reaffirmed the County's support for EPR and made the County a member of the California Product Stewardship Council. During this reporting period, at the Board's direction, the Working Group investigated the feasibility of adopting an ordinance for a pharmaceutical and sharps waste EPR ordinance in which pharmaceutical manufacturers and producers would develop a take-back program. This ongoing effort is described in further detail under the County Unincorporated Communities and Regional/Countywide sections of the report.

Organic Waste Management

AB 1826 requires a business generating specified thresholds beginning with 8 cubic yards or more per week of organic waste to arrange for "recycling services" for that organic waste. It also requires local jurisdictions to implement an organic waste recycling program to divert organic waste from businesses by April 1, 2016. If the Statewide goal of a 50 percent reduction in organic disposal is not met by 2020, the threshold drops to 2 cubic yards or more per week of any commercial waste by the summer/fall of 2021. Therefore, the Working Group and Subcommittees are preparing a comprehensive Organics Management Plan. Since organic waste is the largest component of the waste stream currently being disposed, it is discussed in further detail across all Focus Areas.

Conversion Technologies

The goal for the Conversion Technologies (CT) Program is to reduce our dependence on landfills and ensure there is sufficient, sustainable capacity available to the County to meet future needs. Benchmarks for the program have been set based on current waste disposal quantities and the disposal reduction targets established in the Roadmap as well as State laws, such as AB 1828 which established a Statewide goal to reduce the amount of organic waste disposed in landfills from 2014 volumes by at least 50 percent by 2020. To meet this goal in the County would require diverting approximately 5,000 tons per day (tpd) of organic waste from landfill disposal. CT accomplishments during this reporting period are discussed in further detail under the Regional/Countywide section of this report.

Household Hazardous Waste

The County operates a substantial household hazardous waste (HHW) and electronic waste (E-Waste) collection program. Through strategic partnerships, the County coordinates over 60 mobile events with participation from over 47,000 households each year, funds the operation of 9 permanent collection centers, and provides convenient additional drop-off locations for batteries, sharps and pharmaceuticals throughout the County. According to the USEPA and County data, permanent collection centers require a larger upfront investment than one-day collection, but they may reduce costs per participant in the long run. Identifying potential County-owned sites for this purpose will help address the need. HHW efforts during this reporting period are discussed in further detail under the Regional/Countywide section of this report.

Construction and Demolition Debris Management

In January 2005, the Board adopted the County's Construction and Demolition (C&D) Debris Recycling Ordinance. C&D debris consists of materials like lumber, drywall, metals, masonry, carpet, plastics, pipe, rocks, dirt, paper, cardboard, or green waste related to land development. Revisions to the C&D Debris Recycling Ordinance will address greater diversion requirements from landfills and potential security deposits prior to issuance of permits to encourage meeting recycling requirements and completion of recycling reports. Prior to amending the ordinance, stakeholders will be consulted for their input. Additional details on the proposed revision of the ordinance are discussed under the County Unincorporated Communities section of the report.

Resource Recovery Centers

A significant portion of materials disposed in the unincorporated area of the County are from self-haul customers at landfills and transfer stations. Resource Recovery Parks or Resource Recovery Centers are places where materials can be dropped off for donation or buyback and provides a place to co-locate synergistic diversion-related activities, including reuse, recycling, composting, processing, manufacturing, and distribution. A Resource Recovery Park can make the landfill or transfer station more sustainable by diversifying revenue for the facility owner, conserving capacity, and extending the useful life of those facilities.

Emergency Management and Regional Debris Management Planning

The County's unique geography makes it susceptible to various forms of natural disasters including earthquakes, landslides, wildfires, flooding, mudflows, and tsunamis. In addition to natural disasters, there could also be man-made disasters. These occurrences have the potential to create large quantities of debris, which must be managed in order to protect and maintain public health and safety following a major disaster event that would impact the Los Angeles County Region, the unincorporated area of the County, and the contracted cities. This effort is discussed in more detail in the Regional/Countywide section of this report.

Assessment and Evaluation

Identifying the largest contributors to the waste disposal system will help shape where resources and efforts are needed to achieve the County's disposal reduction goals. This will enable the County to maximize short-term waste diversion while prospective strategies and initiatives that will take longer to develop are being researched and developed, and appropriate funds are pursued and secured. Public Works is in the process of initiating a waste characterization study for the County Unincorporated Communities, which is projected to begin in 2016. Details on this effort are discussed in the County Unincorporated Communities section of this report.

Outreach and Education

Effective public education will cultivate behavioral change that will lead toward a waste-free, safe, and healthy future in the County. The main goal of the Outreach and Education efforts is to support each Focus Area to communicate key initiatives effectively, to the appropriate stakeholders and target audiences. Given the importance of Outreach and Education, tailored communications and marketing messages are needed for each of the three Focus Areas.

To advance our efforts in general as well as support specific initiatives in the Roadmap, the Working Group identified the following outreach objectives:

1. Branding (Tagline/Slogan) – Developed a tagline and image that will allow people to identify and recognize the Roadmap efforts. The tagline is Sustainable is Attainable.
2. Identify Programs and Resources – Continue to identify programs and resources used by other jurisdictions that we can adapt to the County to help meet the diversion goals set in the Roadmap.
3. Develop Best Management Practices – Look at what programs, services, and resources the County has to offer, what other jurisdictions have, and develop resources and best practices that can easily be shared and utilized.
4. Communication Plans – Developing an internal communications plan to report within the County family, and developing external communications and stakeholder engagement plans for each key initiative to conduct tailored outreach and education.
5. Website – Developed a website to house information regarding the Roadmap, such as meeting agendas, summaries, presentations, fact sheets, tool kits, etc. The purpose of the website will be to show transparency and tell our story.
6. Target Each Focus Area with a Unique Outreach and Educational Program: Recognizing the different audiences for County Unincorporated Communities, County Operations, and Regional/Countywide Focus Areas and tailoring outreach and educational programs accordingly.

Public Works plans to issue a Request for Proposals (RFP) for a technical stakeholder engagement/outreach contract. The draft language is currently being developed and will include a creative strategist component with guidance from the Arts Commission. The work of the County's abundant creative sector, which consists of more than 3,600 nonprofit arts organizations and 228,500 artists, can be used to advance the strategies and initiatives of the Roadmap. The RFP will also include stakeholder engagement tasks for the strategies and initiatives for each of the Focus Areas of the Roadmap.

Detailed discussion of Outreach and Education for County Unincorporated Communities, Regional/Countywide areas, and County Operations are discussed in the respective sections of this report.

PROGRESS OF INITIATIVES BY FOCUS AREA

The Working Group identified and worked on numerous initiatives during this reporting period. The following provides the progress and next steps for those initiatives advanced by the Working Group to date for this reporting period.

County Unincorporated Communities

Strategy 1: Programs and Services

Initiative A: Institutionalize Waste Prevention and Source Reduction in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Explore and, if feasible, develop and implement more aggressive reuse programs.
 - ◆ Promote reuse and repair for residents, businesses, and nonprofits with repair workshops (Repair Café and iFixit models); web-based directories for sharing reusable materials such as LACoMAX, the County's free materials exchange network; thrift stores and repair shops; reuse depots like East Bay Depot for Creative Reuse; and/or Tool Lending Libraries.

Background

LACoMAX is a free service provided by Public Works. The primary goal of LACoMAX is to conserve landfill space by helping businesses, organizations, and institutions find alternatives to the disposal of valuable materials which are presently discarded as waste.

Users of this on-line materials exchange service can browse or post listings of a wide variety of available and wanted materials. Listings are categorized by 15 material classifications and 6 regions and include common items such as wood pallets, out-of-fashion textiles, and chemicals as well as more uncommon items. The listings also contain contact information, allowing you to make direct contact with the listing party. All exchanges are coordinated between the two interested parties.

Accomplishments and Milestones for the Next Annual Reporting Period

To generate traffic to the site, various forms of advertising have been used such as flyers, attending Earth Day events, and tweets with information on current listings from the website. During Earth Month 2015 we saw an increase in traffic to the site as a direct result of our tweets and advertising. To increase awareness of the program we plan to attend and/or provide informational flyers at community events in the unincorporated areas. We are also encouraging interdepartmental collaboration such as with the Arts Commission to tap into their large and diverse arts network that has the potential to create opportunities related to diversion recycling and repurposing.

Initiative B: Advocate for Extended Producer and Manufacturer Responsibility in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Explore the feasibility of establishing a County EPR ordinance for materials, such as pharmaceuticals and needles to ensure that collected items are properly managed in accordance with Federal, State, and local laws using environmentally sound practices.
- ❖ Support voluntary take-back initiatives. Encourage and incentivize businesses and institutions to take back products and packaging they sell and are sold by others.

Background

Currently, there are very limited safe, convenient, and sustainable options for the public to dispose of pharmaceuticals and sharps waste in the County and there is a public safety and environmental need for safe disposal. Pharmaceutical waste includes unused and/or expired over-the-counter or prescription tablets, oral liquids and injectable products, but also may contain biomedical or bio-hazardous waste. In 2012, Alameda County passed the nation's first safe drug disposal ordinance requiring producers of prescription drugs to develop, manage, and pay for EPR programs to collect and dispose of unused medications from Alameda County's residential consumers. The Counties of San Francisco, San Mateo, and Santa Clara passed ordinances similar to Alameda County's. On May 27, 2015, the U.S. Supreme Court declined to review a challenge to Alameda County's Drug Disposal Ordinance. The Court's decision upholds the 9th Circuit Court of Appeals' opinion of September 30, 2014, which found that the ordinance, requiring pharmaceutical manufacturers to fund drug take-back programs in Alameda County, did not interfere with interstate commerce or discriminate against out-of-state manufacturers. Today in Los Angeles County, publicly financed take-back programs such as the drop boxes at the 21 Sheriff's stations are the only safe options for residents to dispose of sharps and pharmaceuticals; however, these programs are simply not adequate to manage the amount of unused pharmaceuticals produced in the County.

Accomplishments

On June 2, 2015, the Board instructed Public Works, in coordination with the Chief Executive Office (CEO), County Counsel, Sheriff, Health Services, Mental Health, Public Health, and the County Sanitation Districts to report back in 30 days with findings and recommendations on the following: investigate the feasibility of adopting an EPR ordinance for pharmaceutical take back and investigate the feasibility of utilizing the County's purchasing power to negotiate producer/pharmacy take-back programs. The motion also requested a report back in four months regarding options for reducing improper use and disposal of pharmaceuticals; educating residents on the importance of properly storing and disposing of unused pharmaceuticals and the negative effects they can have on the environment; and opportunities to actively support and pursue EPR legislation and take-back programs for sharps and pharmaceuticals.

On July 2, 2015, a report was submitted to the Board entitled Managing Unused and Expired Medications and Sharps Waste in the County of Los Angeles which recommended the County prepare a pharmaceutical and sharps waste EPR ordinance in which pharmaceutical manufacturers and producers would develop and finance a product stewardship plan that addresses a take-back program providing: 1) collection services; 2) handling and disposal procedures; 3) public education and outreach strategies; and 4) tracking reports of disposal amounts, short-term and long-term goals for collection amounts, and education and promotion programs.

On August 11, 2015, the Board directed the CEO in collaboration with the County's Sustainability Council and the Pharmaceutical EPR Working Group to: 1) draft an ordinance which requires manufacturers and producers of prescription and nonprescription drugs and sharps to develop product stewardship take-back programs to collect and dispose of unused/unwanted pharmaceutical and sharps waste from County residents; 2) initiate stakeholder engagement with the pharmaceutical industry and other stakeholders to solicit feedback on the ordinance; communicate the need to provide safe, convenient, and sustainably financed take-back options for consumers to properly dispose of pharmaceutical and sharps waste; and generate awareness about the collection program that will be created; and 3) return to the Board within six months with the recommended ordinance for consideration. An amendment was made to initiate stakeholder engagement before drafting the ordinance.

On September 28, 2015, two stakeholder meetings were facilitated by the County's EPR Working Group. The first meeting was held with an Ordinance Advisory Group made up of representatives of pharmaceutical and sharps manufacturers, retailers, dispensers, and environmental, health, and consumer advocacy organizations. The second meeting was a public stakeholder meeting open to all interested residents and businesses. The purpose of the meetings was to engage with stakeholders and solicit feedback that will be used to prepare a draft ordinance.

On October 2, 2015, a report was submitted to the Board with findings and recommendations related to all of the items requested in the original June 2, 2015, Board motion as well as a status update regarding the Board's August 11, 2014, motion.

Milestones for the Next Annual Reporting Period

The EPR Working Group will continue to work together and host meetings to refine the concept of a pharmaceutical and sharps waste EPR ordinance. The draft ordinance will be submitted to the Board by February 2016.

Initiative C: Make Sustainability Easy and Discourage "Trashing" in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Evaluate and implement, if feasible, alternative trash collection methods such as: reducing trash collection frequency, adjusting the size of bins, implementing a volume or weight-based trash collection system (pay as you throw), collecting additional organics in the green waste bin, and/or a two-bin collection system (wet and dry) processed at a Materials Recovery Facility (MRF) for separation and recovery.

Background

In order to effectively reduce the amount of waste sent to disposal from the unincorporated areas, it will be necessary to make significant adjustments in the way we separate, collect, and process materials generated by residents and businesses in the County Unincorporated Communities. Different collection systems have a variety of pros and cons, and any change will require understanding and support from those affected, including the haulers currently picking up materials. In addition, the County Unincorporated Communities are very diverse and, therefore, one solution may not be ideally suited to all areas of the County.

Accomplishments and Milestones for the Next Annual Reporting Period

Completing the Organics Options Analysis, discussed in the next section, will assist us in determining what changes to the current system may be needed to comply with AB 1826 (2014 Statutes) and what changes may be infeasible. The Working Group will then identify certain recommended changes, which will then be piloted in different areas of the County and fine-tuned before being rolled out further.

Initiative D: Recover Organics, including Food Waste, to the Highest and Best Uses in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Collaborate with waste haulers to develop organics collection and diversion programs in County Unincorporated Communities, where feasible.

- ❖ Explore and implement, if feasible, Food Donation Recovery Outreach Program for unused edibles in County Unincorporated Communities.

Background

In 2013, the County Unincorporated Communities sent approximately 764,000 tons of waste to landfills. Based on the percentages determined from the County's 2006 waste characterization studies performed on the County Unincorporated Communities, approximately 500,000 tons of that waste annually, equivalent to approximately 1,600 tons per day (tpd), would be classified as "organic waste." Organic waste accounts for over 66 percent of the entire unincorporated communities' wasted materials. About half of the organic waste can be recovered such as lumber, paper, cardboard, or soil whereas the other half can be composted such as food, leaves, or grass.

Food waste makes up a large percentage of each of the commercial, multifamily, and single-family sectors' waste streams, and, therefore, an important aspect in organic waste diversion. In the commercial sector, organic waste alone comprises approximately 23 percent of the waste stream.

Accomplishments and Milestones for the Next Annual Reporting Period

The identification and education of businesses meeting the threshold in unincorporated areas began in February 2015 resulting in the collection of initial data:

- Waste haulers operating under the Commercial Franchise service more than 10,000 accounts, providing trash collection for businesses and multifamily units in unincorporated County areas.
- Public Works identified 1,300 accounts with the potential to generate a large amount of organic waste that may first need to comply with the first phase of AB 1826, which applies to businesses who generate 8 cubic yards or more of organic waste per week.

The Organics Management Plan for County Unincorporated Communities will describe the County's role and efforts to comply with AB 1826, including identification of unincorporated area businesses that will be required to comply with AB 1826; and educating businesses on organic recycling; developing monitoring tools; and gaining an understanding of barriers, and potential solutions to barriers involved with organic recycling. Potential options for commercial organics collection will be addressed such as source separation or wet/dry containers as well as established methods to ensure success such as an exclusive franchise system or an organics ordinance. The unincorporated organics plan with a recommended collection method is expected to be completed by December 31, 2015.

Food Donation Program - In addition, Public Works working closely with Public Health is developing a food donation and recovery program similar to the Waste Not OC program in Orange County. This program will focus on educating businesses in Los Angeles County about proper food donation and ways to get unused food to organizations that help feed hungry people.

Collection of Food Waste Pilot Project - In September 2015, the County initiated a pilot food waste collection program from select businesses in the Firestone Garbage Disposal District (GDD). Republic Services, the waste hauler contracted to provide waste and recycling services for residents and businesses in this GDD, outreached to restaurants and other large food waste generators in the GDD to sign them up to participate in this pilot program. During the pilot, Republic Services will receive an incentive to divert food waste for select businesses and deliver it to the Puente Hills Materials Recovery Facility operated by the County Sanitation Districts, who will subsequently process the waste and deliver it to an organic diversion facility. Ultimately, the intent is to augment

the food waste pilot program that sends food waste to the County Sanitation Districts' Waste Water Treatment Plant in Carson for co-digestion with sewage sludge.

Initiative E: Maximize Diversion of Construction and Demolition Debris in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Revise the C&D Debris Recycling Ordinance

Background

In January 2005, the Board adopted the C&D Debris Recycling Ordinance. The existing ordinance requires C&D projects in the unincorporated County areas to recycle or reuse at least 50 percent of the debris generated. However, still roughly 25 percent, (by weight), of the County's unincorporated area total disposed tonnage is made up of C&D materials and more can be done to ensure that C&D materials are kept out of landfills. There are a number of facilities that will process and divert C&D debris within the County, recovering this material and offering it for beneficial activities within the County. The rates to send this material to such C&D processors is often lower than landfill disposal rates, so this may serve as an incentive for businesses to increase their participation in the recycling and reuse program offered by the County. Additionally, establishing higher minimum diversion rates for C&D materials will likely save project developers money while benefiting the environment and the local economy.

There are currently 31 cities within the County that have a C&D ordinance. Of these, 21 cities require a security deposit prior to the permits being issued. Experience has demonstrated that compliance is much higher when a security deposit is required. The deposit is an incentive to comply with the recycling requirement since most jurisdictions will return all or most of the security deposit if the recycling requirements are met. For Public Works, about 64 percent of applicants filed the Final Recycling Report as required. Public Works estimates that if a security deposit were required, compliance would increase to more than 80 percent. The County would benefit by being able to report additional C&D debris tonnage being recycled as well as diverting waste from landfills. Since the administrative penalties would be equal to the amount of the security deposit, no additional staff time is required to issue or pursue penalties. This change would make the process more cost-effective, consistent or uniform, and efficient.

At this time, applicants may submit paperwork to staff via e-mail, fax, or at the public counter. An electronic application is currently under development and when functional will allow applicants to complete and file the necessary paperwork online. This will minimize errors as the applicant will type in the information, expedite processing by staff, and reduce the number of phone calls, e-mails, faxes, and visits to the public counter.

The following data has been gathered from July 1, 2005, to June 30, 2014, on C&D plans:

- 3,869 C&D plans approved
- 2,495 of the 3,869 C&D approved plans submitted Final Compliance Reports
 - 1,374 C&D projects did not submit Final Compliance Reports
- 127 C&D projects were issued administrative monetary penalties
 - 56 of the 127 C&D projects paid the administrative monetary penalties

During calendar year 2014, for the unincorporated County areas, completed projects generated 61,997 tons of C&D debris and recycled 50,258 tons of C&D debris, for an overall recycling rate of 81 percent. In addition, projects generated 75,181 tons of soil and recycled the same amount.

Accomplishments

With input from representatives from Building and Safety and the Roadmap Working Group's County Unincorporated Communities Subcommittee, proposed revisions to the C&D Debris Recycling Ordinance were drafted including (1) raising the requirement to 70 percent of C&D material to be recycled or reused; and (2) requiring a security deposit as an incentive for businesses to comply with the recycling requirement. Preparations have been made to meet with public stakeholders such as land developers, construction companies, demolition companies, C&D debris recycling facilities, and waste haulers.

Milestones for the Next Annual Reporting Period

Public Works will submit the revised C&D ordinance to the Board in the next reporting cycle.

Strategy 2: Measuring Results

Initiative A: Waste Sector Assessment in the County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Conduct an assessment of waste sectors that are sending waste to disposal facilities
 - ◆ Conduct regular Waste Characterization Studies for entire County Unincorporated Communities (all sectors) at 5- to 10-year intervals to determine material types being disposed which could ultimately be recycled. Include MRFs and transfer stations, as well as self-haul, scavenging, and recycling drop-off centers to determine accurate generation and diversion rates.

Background

Disposal reduction goals will be more achievable if the County first identifies the largest contributors to the waste disposal system and further defines the contributors by their unique disposal characteristics, such as commercial, institutional, industrial, and residential. Once these measurements are obtained, programs can be initiated, expanded, modified, or eliminated to help achieve the Roadmap's long-term disposal targets. Each sector has unique waste management practices that once understood and measured can be assessed for opportunities and options for waste diversion.

The 2005, waste characterization found that the County Unincorporated Communities generated approximately 2.9 million tons of materials

- Equivalent to 14.8 ppd,
 - 1.45 million tons were being disposed at landfills.
 - Resulting in a diversion rate of 50 percent for the County, compared to a 1990 baseline.
- Currently, the County Unincorporated Communities dispose 4 ppd, achieving approximately a 70-percent diversion rate with respect to 2005 as the baseline year.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works is in the process of initiating a waste characterization study for the County Unincorporated Communities, which is projected to begin in 2016. A draft RFP has been completed and is expected to be finalized later this year. Public Works will examine the solid waste composition

and generation rates, and the highest and best use alternatives for diverting the major components of the waste stream to achieve the long-term disposal targets. A large-scale study may be needed every five years, with smaller individual assessments on a more frequent basis, including waste surveys at County facilities.

The Working Group plans to assess the success of existing program measurements that have resulted in successful waste reduction programs, evaluating the feasibility of implementing them in the County, and assessing how these new programs would assist in achieving the County's overarching goals. Each new program or policy recommended through the Sustainable Waste Management Roadmap should be tailored to location and customer and coupled with clear, meaningful, and achievable performance measures. With an ongoing baseline of disposal and diversion measurements, we can assess whether different programs and policies are effective in achieving the long-term disposal reduction targets. The County may need multiple solutions tailored to specific situations. Existing County programs need to be evaluated for effectiveness, costs, and determination of whether they should be maintained at their current resource expenditure level, expanded and/or modified, or eliminated.

Strategy 3: Facilities and Infrastructure

Initiative B: Organics Processing Infrastructure in the County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Evaluate options to encourage the development of local organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations, to assist businesses in the County Unincorporated Communities with AB 1826 compliance.

Background

As businesses begin to comply with AB 1826 (Mandatory Commercial Organics Recycling), additional organic waste such as food waste and green waste will be separately collected. The current local organics diversion facilities will not be able to process all of this additional material, therefore it is important to evaluate options to encourage the development of additional facilities and/or expansion of current facilities to meet this new demand.

Accomplishments and Milestones for the Next Annual Reporting Period

The Department of Regional Planning recently completed the revised General Plan for Los Angeles County, which placed additional emphasis on sustainability and enabling critical infrastructure such as organics diversion facilities. Regional Planning is now beginning to review the County's Recycling Ordinance, in order to update obsolete definitions and streamline the process for diversion facilities of all types, including organic diversion facilities, while continuing to protect the public's health and safety and the environment. As discussed above, the implementation of the AB 1826 plan for the County Unincorporated Communities will encourage additional organic waste separation and collection, which will facilitate the development of organic diversion facilities.

Strategy 4: Outreach and Education

Initiative A: Communication Action Plan for County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Develop an outline for a unique communication plan, focused at the unincorporated community level based on demographics, resources, and commercial and industrial businesses in the targeted areas.
 - ◆ Initiate a unifying slogan such as “Don’t Waste Your Waste” in the outreach campaign, promoting the Four R’s (Reduce, Reuse, Recycle, and Rethink) to effect behavioral change in residents and businesses.

Background

Since the audiences and affected stakeholders vary from initiative to initiative, it is important to develop unique communications plans for each distinct initiative or program in the Roadmap. At the same time, having a unifying slogan can help stakeholders to view these diverse initiatives as being interconnected, and help to build interest and engagement while amplifying messaging campaigns.

Accomplishments and Milestones for the Next Annual Reporting Period

The Outreach and Education Subcommittee was effective in facilitating a number of discussions that improved communications related to County Unincorporated Communities initiatives. This included developing specific communications plans for initiatives such as the revision of the C&D Debris Recycling Ordinance. The Subcommittee also led the development of a unifying slogan: ***Sustainable is Attainable: Roadmap to a Waste Free Future***. This slogan and the new logo will be used to connect different initiatives of the Roadmap as stakeholder engagement accelerates.

Regional/Countywide

Strategy 1: Programs and Services

Initiative A: Institutionalize Waste Prevention and Source Reduction at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Evaluate with local municipalities and other public agencies opportunities to implement policies, such as EPR ordinances.

Background

As directed by the Board, an EPR Pharmaceutical Working Group consisting of many Departments that also participate in the Roadmap Working Group is developing a draft EPR ordinance for pharmaceutical and sharps waste. This ordinance is discussed in more detail under the County Unincorporated Communities, Initiative B of Strategy 1.

Accomplishments and Milestones for the Next Annual Reporting Period

Since the County Public Health Officer serves as the health officer for 85 of the 88 cities in the County, County Counsel is investigating the most effective ways to implement the ordinance on a Countywide basis to improve its effectiveness. This discussion is ongoing and will be a part of the recommendation submitted to the Board in February 2016.

Initiative E: Maximize Diversion of Household Hazardous Waste and Electronic Waste at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Work with cities and landfill operators to increase the number of permanent HHW and E-Waste collection centers where feasible.

- Identify potential locations convenient to the community to increase participation and reduce the amount of toxic materials improperly disposed.

Background

One of the initiatives identified in the Roadmap was to maximize the diversion of HHW and E-Waste at a Regional/Countywide level. The County operates the largest HHW and E-Waste program in the country with participation from over 43,000 households each year. The HHW/E-Waste program works through partnerships with the County Sanitation Districts, the City of Los Angeles, the Sheriff's Department, the County Departments of Public Health and Health Services, the Department of Public Library, and all cities in the County of Los Angeles. Public Works partners with the County Sanitation Districts to conduct approximately 60 mobile events annually and funds the operation of nine permanent collection centers.

Collection Statistics

- Approximately 11 million pounds of HHW/E-Waste are collected through mobile events annually.
- 523,000 pounds of HHW/E-Waste are collected through the Antelope Valley Environmental Collection Center annually.
- 611,000 pounds of HHW/E-Waste are collected through EDCO Environmental Collection Center annually.
- 6,800,000 pounds of HHW/E-Waste are collected through the City's S.A.F.E. Centers annually.

The cost of the HHW program is substantial at approximately \$10.4 million annually. These costs include the routine operation of permanent centers, facilitation of temporary events including setup, collection and disposal of the materials, and administrative functions.

Mobile Event Costs

- Average operational cost per pound - \$0.80
- Average operational cost per event - \$48,000
- Average number of households participating per event - 800
- Average cost per household per event - \$60

Permanent Collection Center Costs

- Average operational cost per pound - \$0.42
- Average operational cost per event - \$20,000
- Average number of households participating per event - 800
- Average cost per household per event - \$25

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works conducted a study to determine whether temporary events or permanent collection centers were more effective as well as cost efficient. The conclusion of the study determined a mixed-model approach consisting of both mobile events and permanent centers was the best approach. Subsequently, Public Works performed a feasibility analysis of a number of County-owned sites as potential locations for new permanent centers. These potential sites will be presented to management in the coming year to decide whether to pursue further design work or to look for other alternatives.

Strategy 2: Measuring Results

Initiative B: Ensure Sustainable Funding and Alignment of Incentives with Program Goals at Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Evaluate and modify, if needed, existing revenue streams to mitigate funding lost from waste reduction efforts, and align incentives with waste reduction goals.
 - If revenues are projected to decline and programs cannot be realigned to mitigate this impact, identify options to augment revenue streams or accomplish the goals of the programs through other mechanisms in order to ensure adequate funding is available to carry out programs and policies.

Background

Much of the funding that is used to support Countywide programs comes from the Solid Waste Management Fund. This fund receives revenue for each ton of waste disposed that is generated in the County. Increased diversion and less disposal of material are some of the underlying goals and driving forces of the Roadmap; however, as disposal of waste decreases so does funding for programs.

A significant portion of the waste stream is comprised of organic materials. One alternative to landfilling organic waste is processing it at a CT facility. The State of California has several funding mechanisms available to assist with the development of CT facilities. Promising funding mechanisms include the California Pollution Control Financing Authority program, the Greenhouse Gas Reduction grant and loan program, the RMDZ program, California Energy Commission, the Renewable Portfolio Standard, and the Low Carbon Fuel Standard.

Accomplishments and Milestones for the Next Annual Reporting Period

Some of the Working Group discussions related to sustainable funding included increasing landfill disposal fees, creating a tiered approach for waste processing fees, or creating a waste generation fee. The Working Group will evaluate these options and consider actions at the State and local level to develop a set of recommendations for consideration at a future date.

Public Works continues to seek grants and other funding opportunities such as fees for new solid waste facilities in the County Unincorporated Communities seeking conditional use permits. Public Works staff has provided extensive feedback on legislative actions, regulatory changes, and incentives being proposed by the California's Department of Resources Recycling and Recovery (CalRecycle) through the State budget process. Staff also partnered with the Bioenergy Association of California to advocate for increased waste diversion funding.

Strategy 3: Facilities and Infrastructure

Initiative A: Develop Conversion Technologies and Integrated Materials Recovery Facilities at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Continue to sponsor and support legislation to encourage the environmentally sound development of CTs and build a coalition of organizations to do so.

- ❖ Evaluate options to establish incentives in order to level the cost differential between CT facilities and landfills, or otherwise incentivize waste haulers to direct waste to such facilities.
- ❖ Increase awareness of the www.SoCalConversion.org website as a one-stop portal for information regarding local project development, local ordinances, permitting processes, and general information and resources related to CT development.

Background

The County's efforts to achieve waste diversion are guided by the new waste management paradigm, which places a greater emphasis on source reduction, reuse, recycling, and otherwise maximizing the benefits and use of materials over disposal. However, source reduction, reuse and recycling alone will not be enough to achieve the longer-term targets identified in the Roadmap. To address the fraction of the waste stream that cannot be feasibly recycled, the development of CT facilities is a vital aspect of the new paradigm and necessary to achieve a truly sustainable waste management future. As previously discussed in this report, AB 1826 requires businesses to recycle organic material. It is anticipated that much of the organic material can be recycled with CTs such as anaerobic digestion.

Accomplishments and Milestones for the Next Annual Reporting Period

The County is seen as a leader by the solid waste industry in evaluating and promoting the development of CTs, and continues to encourage the development of commercial scale CT projects within the County. Public Works continues to actively pursue and support the passage of legislation that encourages the siting of CT facilities. Public Works presents at various waste conferences on our CT program and shares knowledge and resources in the goal of promoting CT. Working with various cities in the County, Public Works has developed a list of potential CT sites. CT companies have also consulted with Public Works to discuss permitting of CT sites in the County. A number of CT projects within the County are in various stages of development, including:

- Lancaster Landfill CT Facility: Public Works is currently assisting Waste Management (WM) with environmental review for a full-scale organics digestion CT facility at Lancaster Landfill. Public Works has done extensive research of the Statewide Programmatic Environmental Impact Report for Anaerobic Digestion, as well as other projects' environmental documents such as San Jose's anaerobic digestion facility, and developed recommendations for the environmental documentation for this project.
- Joint Water Pollution Control Plant (JWPCP): The County Sanitation Districts, who serve as active members of the Working Group, are currently operating a CT demonstration project for co-digesting food waste at the District's JWPCP in the City of Carson. As part of this project, WM collects food waste, cleans and processes it into slurry, and delivers it to the JWPCP where it is co-digested with sewage sludge to create biogas which is converted into electricity. The Sanitation Districts determined that it can be technically viable to expand the co-digestion project at JWPCP into a commercial-scale anaerobic digestion facility, if it is determined to be financially viable and after a consistent and clean food waste supply can be secured. As described above, a pilot organics collection program has begun sending additional waste to the Sanitation Districts' facilities to determine the feasibility of expanding the amount of waste the facility processes.

The goal for the near future is to make significant advancement toward establishing commercial-scale CT facilities. Public Works will:

- Provide technical assistance to facilitate WM's CT project, including permitting assistance, further environmental review, and support for grant applications. Public Works anticipates coordinating with Regional Planning and County Counsel as the project moves forward.
- Work with the Sanitation Districts to initiate an organic waste collection program, including creating outreach materials, training customers on items that meet the program criteria and proper placement of the food waste containers, and conducting site visits to ensure participation, with the goal of increasing the digestion of food waste in the County through anaerobic digestion.
- Continue to serve as an informational resource and catalyst for CT project development in the County.
- Finalize a CT White Paper that will provide policy makers with information regarding the net environmental benefits of managing residual solid waste using anaerobic digestion and gasification at an integrated CT facility instead of transporting it to a typical solid waste landfill. The White Paper is currently undergoing a final review by Public Works staff before being released. The White Paper will be an important tool in educating elected officials and the public regarding the benefits of CTs.

Initiative B: Organic Processing Infrastructure at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Evaluate opportunities to encourage the development of regional organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations.

Background

Public Works is also developing a Regional/Countywide section of the organics plan to determine the current processing capacity of existing organics processing facilities, the capacity of planned processing facilities, and determining if this capacity is sufficient to meet the demands over a 15-year period. The organics plan will include a categorized list (based on material type) of existing in and out of the County organics processing facilities which receive waste from Los Angeles County. Facilities capable of expanding their operations will be noted, as well as areas potentially suitable for the locations of organics processing facilities. Regional maps will be prepared to show: (1) food waste processing facilities, (2) green waste processing facilities, and (3) mixed waste processing facilities. Facility operators will be surveyed to determine the existing services offered and the challenges they have or foresee. A GAP analysis will determine if the County's 15-year needs are being met with existing and proposed capacities. If there is a shortage in capacity, plans can be developed to mitigate the shortage. Additionally, markets for compost and other organic residuals will be identified, along with an analysis of options for mechanisms those jurisdictions may implement to ensure that commercial organic waste is collected and recycled in the most efficient and economical way. Lastly, the plan will evaluate barriers to the development or expansion of facilities and options for overcoming those barriers. Some of these barriers will require the assistance of State or Federal agencies.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works has begun surveying organics processing facilities. A consultant has been secured and will perform the market and options analysis. A projected completion date for the organics plan is December 2016.

Additionally, Public Works initiated a partnership with the County Sanitation Districts for a commercial organics collection pilot project. Public Works and the Sanitation Districts are working with waste haulers to develop a pilot program for collecting food waste from the County's Firestone GDD. The pilot collection program will deliver food waste to the Puente Hills Materials Recovery Facility and may be used to expand the Sanitation District's co-digestion operation in the City of Carson if commercially viable.

Initiative C: Local Green Business & Market Development at a Regional/Countywide level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Work with partner cities in the RMDZ to encourage new green businesses and remanufacturing facilities to locate in the County.
- ❖ Continue to seek opportunities to expand the RMDZ to include additional interested cities in the County.

Background

The RMDZ program was designated in 1994 to provide business assistance to companies which manufacturer a product using recycling-content or process materials for recycling. To qualify for assistance, the company must be located within the RMDZ. Currently, the RMDZ consists of the unincorporated County areas and 19-member cities: Azusa, Baldwin Park, Burbank, Carson, Commerce, Compton, Covina, Culver City, El Monte, Glendale, Huntington Park, Inglewood, Monrovia, Palmdale, Santa Fe Springs, South Gate, Torrance, Vernon, and Whittier. The program provides marketing assistance and/or financial assistance to qualifying companies. The financial assistance consists of a low-interest loan program which may provide \$2 million in funding to an eligible business located in the RMDZ for marketing or purchasing of equipment.

Accomplishments and Milestones for the Next Annual Reporting Period

From October 2014 to October 2015, RMDZ met with six companies to discuss possible business assistance. One of the companies, a manufacturer of cardboard boxes from recycled paper, applied for a loan in order to purchase equipment. The loan in the amount of \$2 million was approved in September 2015. In addition to purchasing new equipment, the company is also hiring additional staff.

In October 2014, RMDZ attended a public outreach event in the City of Vernon. The event was geared towards local businesses and provided RMDZ an opportunity to meet local companies and let them know about the program. Given the need to make businesses aware of the program, marketing will be a primary focus this coming year.

Initiative E: Emergency Management/Debris Management Plan at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Update County's Debris Management Plan to maximize diversion of materials following emergencies and disasters.

Background

Public Works is developing a Mass Debris Management Plan (MDMP) to identify roles and mechanisms to collect, stockpile, and recycle debris to the extent feasible following an emergency or disaster. It also ensures that the removal process for the debris is conducted in an efficient, economical, and environmentally beneficial manner while considering the safety of the public and personnel. The MDMP will be consistent with the existing policies and guidance provided by the County, State, and Federal Emergency Management Agencies for removal and management of disaster-related debris.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works began preparations of the MDMP, which is currently being developed by a consultant and will serve as a resource guide for the County and its 88 cities to establish a collaborative and coordinated mass debris management structure during a major disaster event that impacts the County.

Strategy 4: Outreach and Education

Initiative A: Communication Action Plan at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Brand the campaign slogan (e.g., “Don’t Waste Your Waste”) and encourage cities to adopt and include in their websites as a consistent slogan.
- ❖ Establish partnership to build on and promote other sustainability programs, and partner with jurisdictions or agencies, as appropriate, to leverage resources and amplify the message of sustainability.

Background

Extensive research was conducted before a tagline/slogan was selected including examining the various phrases that people identify with throughout the County and what other agencies and jurisdictions throughout the country are calling their version of the Roadmap efforts.

For example, in the County we have few terms/phrases that people identify with:

- CleanLA
- Green LA County
- Roadmap to a Sustainable Waste Management Future
- A trash solution for a green evolution

Examples of what other jurisdictions are using include:

- LA City Sanitation: Counting Down to Zero Waste Plan
- Colorado: Zero Waste - Envisioning a Zero Waste Boulder
- Hawaii: Zero Waste
- Maryland: Zero Waste - Smart, Green, & Growing
- Austin Resource Recovery: Zero Waste by 2040
- City of Leduc: Growing a clean, green, and healthy Leduc
- San Francisco: Sending nothing to landfill is a foreseeable future
- King County, WA: Get in the loop, buy recycled, and it’s easy being green

- Environmental Protection Agency: Waste Wise and Conserving Resources, Preventing Waste
- Waste Management: THINKING GREEN, GO #Greenin15, and Recycle Often. Recycle Right.

Accomplishments and Milestones for the Next Annual Reporting Period

During the development of the tagline/slogan, over 50 variations of phrases were crafted. Below is a list of the top four branding/tagline ideas determined during the brainstorming discussion.

- Roadmap to a Sustainable LA County
- Roadmap to a Greener LA (County)
- Sustainable is Attainable
- Roadmap to a Waste Free Future

After further discussions with the Working Group, the final determination for the tagline/slogan was:

Sustainable is Attainable: Roadmap to a Waste Free Future

After determining the tagline/slogan, 20-logo design concepts were created and surveyed by the Roadmap Working Group, Implementation Subcommittees, and others outside the County family. In all, 70 people took the survey and based on the narrowed down results, the final logo was developed and is included in the cover of this report.

We will continue to seek partnerships to further build on and promote the message of sustainability. Through the Arts Commission we have been introduced to the Land Art Generator Initiative (LAGI), which focuses on the design and construction of public art installations that have the added benefit of clean energy generation. They present the renewable energy power plant as public artwork that enhances the environment, increases livability, provides a venue for learning and stimulates local economic development. Education and outreach is a core component in promoting and demonstrating the use of renewable energy and innovative design. By working closely with the Arts Commission and LAGI, we will seek to find opportunities to incorporate art installations that uniquely combine aesthetics and clean energy generation in their design and construction in future projects. The artwork will serve to inspire and educate.

County Operations

Strategy 1: Quality Programs and Services

Initiative C: Make Sustainability Easy and Discourage "Trashing" at County Facilities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Expand the County Recycling Coordinator program and develop standardized reuse and recycling processes.

Background

Since the inception of the County Departmental Recycling program (CDRP) in 1990 the Board of Supervisors has instituted a number of policies related to County purchasing practices. These policies included requirements for purchasing recycled-content and remanufactured products. In 2007, ISD established the "Purchase of Environmentally Preferable Products (Green Purchasing)"

Policy, which established objectives for the purchase of products that conserve natural resources, minimize environmental impacts, eliminate toxics, and reduce materials sent to landfills.

Under this Purchasing Policy, easy to adopt purchasing categories, (e.g., paper, cleaning supplies), were implemented and a pricing advantage for green products was put in place. The County maintains central purchasing agreements with a catalogue of environmentally friendly and energy efficient products; existing databases were modified for the easy identification of green products.

The expiration of other service contracts provides a similar opportunity for sustainability improvements. The CEO is currently rebidding its cafeteria contract and has added requirements to develop a sustainability plan which includes food waste reduction and recycling programs for the cafeteria. These types of plans can be included in other contracts that involve waste generation or disposal such as landscaping contracts. By including recycling and organics management requirements in these contracts, the County will ensure compliance with State law and establish the measuring and reporting requirements needed to track progress toward achieving the goals of the Roadmap.

- ISD's waste collection contracts service over 600 County facilities.
- The current contracts are serviced by 3 waste haulers.
- The current contracts do not require waste haulers to report on tonnages collected or types and amounts of material recycled.

Accomplishments and Milestones for the Next Annual Reporting Period

In addition to managing purchasing contracts for County Departments, ISD also manages the waste collection contracts for County Departments. The initial term for these contracts has expired and the final two-year extension will extend the existing contract from 2016 to 2018. With the contract approaching renewal, it is a good time to re-evaluate the scope of work and incorporate new reporting and recycling requirements which will facilitate compliance with the States mandatory recycling laws and help achieve the diversion targets established in the Roadmap. Public Works is currently working with ISD to evaluate the existing waste hauling contracts and determine the appropriate method for soliciting a new waste hauling contract which will meet the recycling and waste disposal needs of all County Departments.

One of the goals for the new hauling contracts is to require reporting of tonnages disposed and materials recycled from County facilities. This will facilitate the establishment of benchmarks for both disposal and recycling and help to measure the County's progress in achieving the diversion goals established by the Roadmap. It will also allow Departments to make more informed decisions about the level of waste collection service they require and help reduce costs for unnecessary services.

Strategy 2: Measuring Results

Initiative A: Waste Sector Assessment at County Facilities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Develop a methodology to conduct waste generation and disposal surveys at County Operations.

Background

The State of California has recently passed two mandatory recycling laws which affect County operations. AB 341 and AB 1826 both require commercial entities including government buildings to sign up for recycling services for materials such as paper, cardboard, plastic, metal, and organics. The laws specify which facilities must comply based on the amount and type of waste they generate per week.

Accomplishments and Milestones for the Next Annual Reporting Period

To determine which County facilities are required to comply with these laws it is necessary to know which County facilities are generating large amounts of solid waste and organic waste. The most accurate way to determine this is through waste assessments at County facilities.

To facilitate this effort, Public Works has developed a Commercial and Institutional Recycling Program (CIRP) contract for performing waste studies of County operations and large venues. The purpose of CIRP is to help County facilities to achieve large-scale waste diversion and generally enhance the sustainability of their activities related to materials management. For example, the program would assist the County in developing source reduction policies, environmentally sustainable practices, and zero waste goals.

Measurement

The Pitchess Detention Center (PDC) is a 2,600 acre facility that self-hauls its waste due to the type of facility, its size, and various trash disposal sites:

- PDC disposes 2-3 tons of food waste per day or 14-21 tons per week.
- Pitchess Material Reclamation Center (PMRC) collects 2 tons per week to compost which is approximately 9.5% to 14% of the total waste generated at PDC. Staff continues to pursue opportunities to divert additional materials, and to the extent feasible, reclaim them in a way that benefits PDC operations.

Initiative B: Evaluate and Measure the Success of Existing Programs and Consider New Programs at County Facilities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Create a framework to monitor and measure the success of waste reduction programs targeted at County facilities.

Background

The CDRP, established by the Board in 1990 instructed all County Departments to develop and implement recycling programs with specific goals to be met, under the supervision of on-site managers or proprietors. This Board action also required the modification of County procurement policy to emphasize the purchasing of recyclable and recycled-content paper products. As a result Departmental Recycling Coordinators (DRCs) were assigned at each Department to implement recycling programs and Public Works was assigned to oversee the overall program and train the DRCs on recycling and waste reduction policies/initiatives, and their implementation.

Over the years, the program has been expanded to include more than just paper and now deals with a variety of materials including, electronics, toner cartridges, hazardous material,

styrofoam, plastic bags, and beverage containers. From 2013 to 2014, over 2,000 tons of paper and 1,900 lbs. of beverage containers were recovered from County operations.

Accomplishments and Milestones for the Next Annual Reporting Period

To determine the effectiveness of these recycling programs and gauge each County Department's participation in recycling efforts, the Working Group is developing a survey to be distributed to each County Department. This survey will provide feedback about current recycling efforts and determine the need for additional education and outreach to County Departments about existing County recycling policies. It will also identify opportunities to achieve additional waste diversion through new policies focused on materials not currently being recycled such as food waste and other materials.

Strategy 3: Facilities and Infrastructure

Initiative B: Organics Processing Infrastructure at County Facilities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Establish guidelines and enable County facilities that are large-quantity food waste generators to do their own composting where feasible.
 - Identify at least two micro-composter pilot project opportunities, including required funding, at County facilities that would foster interdepartmental collaboration and help meet the solid waste management needs of one or more large County Departments.

Background

Pilot projects at County facilities will be an important component of implementing the policies and programs described in the Roadmap. Testing new projects at a few facilities will allow for the development of performance guidelines and best management practices which can then be replicated at other County Departments.

Accomplishments and Milestones for the Next Annual Reporting Period

Two pilot projects have been identified so far, one at the Public Works Headquarters facility and the other at PDC. The project at Public Works will be a pilot food waste reduction and recycling program which will be implemented in partnership with the onsite cafeteria. Food waste reduction methods, such as Lean Path or similar software that helps to track excess food purchases and waste, will be implemented in cafeteria operations to reduce the generation of food waste. In conjunction with these methods, Public Works installed vermiposting (worm composting) bins to recycle the cafeteria's pre-consumer food waste onsite.

The second pilot project proposes to create a model for sustainability at the PDC, a jail facility in Castaic, California, which houses over 8,000 inmates. The Sheriff's Department and Public Works have partnered to establish a zero waste program that benefits both the inmates and public, while conserving resources and protecting the environment. A diversion program has been started to recycle cardboard, metals, and plastics. However, leftover food remains the largest waste generated on-site which is hauled off and disposed in landfills. The project proposes to install an anaerobic in-vessel digester to compost the food waste generated onsite.

The PDC is located in a semi-rural area surrounded by farmland both on the premises and outside. Instead of trucking the waste to a landfill, the food waste could be composted to become a rich soil amendment that is beneficial for the growing of crops. If successful, this pilot project

could be expanded to receive food waste from other County Departments and the surrounding unincorporated areas, reducing disposal costs and creating usable energy and products for the facility as well as the County's regional parks. Public Works is working with Alternative Resources, Inc. (ARI) to finalize an economic analysis for the three potential scenarios of this project. The first scenario is based on processing approximately 1,000 tons per year (tpy) of organic waste (which includes food waste and green waste) from PDC. The other two scenarios estimate processing additional feedstock from external sources, in addition to PDC's organic waste.

- PDC Scenarios: In the first scenario, the facility would process 1,000 tpy of on-site organic waste, which includes food waste and green waste.
- The second scenario would have the facility processing a total of 10,000 tpy of feedstock, with 9,000 tpy originating from surrounding County facilities.
- In the third scenario, the facility would operate at a commercial scale, processing a total of 40,000 tpy of feedstock, with 39,000 originating from regional sources. It is likely that further increasing the facility capacity above 40,000 tpy would provide greater economic feasibility.

Strategy 4: Outreach and Education

Initiative B: Leadership in Sustainability

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Work with County Departments to implement sustainable practices, where fiscally feasible, based on feedback from waste surveys.

Background

As previously discussed, each County Department is required to have a DRC to help implement sustainability practices at each County Department. Through this program, Public Works educates and provides support to the DRCs on sustainability efforts.

Milestones for the Next Annual Reporting Period

A waste survey will be conducted. Subsequent to the feedback from the survey, DRC meetings will be scheduled to implement and promote sustainable practices at County Departments including ways to improve recycling and increase diversion at County facilities. Through the new waste hauling contracts that ISD is currently working on, there will be increased reporting requirements which will allow County Departments to better measure the success of these sustainable practices. A recognition and/or incentive program will be initiated based on the newly identified sustainable practices.

In addition, we will continue to work to connect the dots to help reduce waste. A great example of a successful connection is PDC and the Arts Commission. PDC is continuously searching for avenues to recycle as much as possible. Our interdepartmental relationship with the Arts Commission is working toward developing ways to utilize existing County programs, such as its policy driven civic art program, to further train and engage the creative sector as service providers that carry forth the waste free future messaging, behavioral change projects and technology demonstration projects. For example, we were able to connect the Arts Commission and PDC

resulting in diverting waste from going to the landfill by communicating the need and working together. By increasing the creative sector's basic knowledge and raising awareness of waste-free future issues, the Roadmap's efforts will effectively reach more audiences and can be longer lasting than single occurrence projects or programs. After working with our County programs, artists will continue to create new work for their art and public engagement work with other public art programs, social service organizations, school systems, and museums into the future.

RELEVANT SOLID WASTE MANAGEMENT STATUS REPORTS

The Board directed that the Roadmap annual report serve to consolidate other solid waste management status reports including the Conversion Technologies in Los Angeles County Six-Month Status Update and the Status Report on Removal of Elsmere Canyon Landfill from the Los Angeles County Countywide Siting Element. These reports are included below:

Conversion Technologies Update

On August 20, 2015, Public Works submitted a semi-annual report to the Board that included clear benchmarks for measuring progress towards establishing conversion technology projects within the County. Conversion technologies are critical to reducing our reliance on landfills and recovering energy, fuels, and other products from waste, and the report notes that conversion technology facilities are being successfully developed. The report noted that significant progress has been made in the development of conversion technology projects in the County.

Elsmere Canyon Landfill Status Report

On September 30, 2003, the Board instructed Public Works to take the necessary steps to remove Elsmere Canyon from the Los Angeles County Countywide Siting Element's list of future landfill sites and to report back every 60 days. Based on our August 23, 2010, status report to the Board, the reporting frequency was changed from every 60 days to semiannually. On October 21, 2014, the Board directed Public Works to consolidate the Status Report on the Removal of Elsmere Canyon Landfill from the Los Angeles County Countywide Siting Element, and submit it with the Roadmap annual report.

The Siting Element is a long-term solid waste planning and policy document that describes how the County and the cities within the County plan to manage the disposal of their solid waste for a 15-year planning period as required by AB 939. AB 939 also requires the Siting Element to establish goals and policies for the proper planning and siting of landfills, inert waste landfills, waste-to-energy facilities, and alternatives to landfill technologies, such as conversion technologies on a Countywide basis.

Since our last report dated August 21, 2014, Public Works has updated the Preliminary Draft Siting Element, which was previously reviewed, and considered by the Los Angeles County Solid Waste Management Committee/Integrated Waste Management Task Force (Task Force) in November 2012. The document is currently being revised to update the base year of 2014, including disposal projections covering the planning period beginning 2014 through 2029, and to include the impacts of current legislations, such as mandatory commercial recycling (AB 341), diversion of organic waste from landfills through organics recycling programs (AB 1826), and prohibition on local disposal limits (AB 845) on the Countywide diversion and disposal quantities.

The next steps entail resubmitting the document to the Facility and Plan Review Subcommittee (FPRS) of the Task Force for their review. After consideration by the FPRS, the revised Preliminary Draft Siting Element will be reviewed and subsequently considered by the Task Force. The revised Siting Element and its environmental documents will then undergo additional reviews by the public in compliance with statutory and regulatory requirements, including approvals by cities, the Board, and CalRecycle.

Appendix A - Priority Issues and County Departments' Involvement Matrix

	Agricultural Commissioner/W&M	Alternative Public Defender	Animal Care & Control	Arts Commission	Assessor	Auditor- Controller	Beaches & Harbors	Board of Supervisors	Chief Executive Office	Chief Information Office	Child Support Services	Children and Family Services	Community and Senior Services	CDC/Housing Auth.	Consumer & Business Affairs	County Counsel	District Attorney	Executive Office (HOA)	Fire	Health Services	Human Resources	Internal Services	Medical Examiner-Coroner	Mental Health	Military and Veterans Affairs	Museum of Art	Natural History Museum	Office of Sustainability	Parks and Recreation	Probation	Public Defender	Public Health	Public Library	Public Social Services	Public Works	Regional Planning	Registrar-Recorder/CC	Sanitation Districts	Sheriff	Superior Court	Treasurer & Tax Collector			
PRIORITIES	DEPARTMENTS																																											
Facilitating Sustainable Practices (pg. 5)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
Local Green Business & Market Development (pg. 5)							I								D				D			D							D	D				D				D	D					
Waste Prevention and Source Reduction (pg. 6)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
Product Stewardship/Extended Producer Responsibility (pg. 6)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
Organic Waste Management (pg. 6)	I		I				D						I	D				D	D	D		D		D	D	D	D		D	D		D	D		D	D			D					
Conversion Technologies (pg. 6)																												I				I				D	D		D	D				
Household Hazardous and Electronic Waste (pg. 7)	D						I						I						D			D											I	I		D	D		D	D				
Construction and Demolition Debris (pg. 7)	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	D	I	I	I	I	I	I	I	I	I	D	I	I	I	I	I	I	D	I	I	D	I	I	I	I	I
Resource Recovery Centers (pg. 7)																																				D	D		D					
Emergency Management and Regional Debris Management Planning (pg. 7)							D						I	I					D										I		D				D	D		D	D					
Assessment and Evaluation (pg. 7)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
Outreach and Education (pg. 8)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D

Direct Involvement = D
 Indirect Involvement = I
 No Involvement = Blank

Appendix B - List of Abbreviations

AB	Assembly Bill
ARI	Alternative Resources, Inc.
CEO	Chief Executive Office
C&D	Construction and Demolition
CalRecycle	California Department of Resources and Recovery
CDRP	County Department Recycling Program
CIRP	Commercial and Institutional Recycling Program
CT	Conversion Technology
DRCs	Department Recycling Coordinators
E-Waste	Electronic Waste
EPR	Extended Producer Responsibility
FPRS	Facility and Plan Review Subcommittee
GDD	Garbage Disposal District
HHW	Household Hazardous Waste
ISD	Internal Services Department
JWPCP	Joint Water Pollution Control Plant
LACoMAX	Los Angeles County Materials Exchange program
LAGI	Land Art Generator Initiative
MDMP	Mass Debris Management Plan
MRF	Materials Recovery Facility
PDC	Pitchess Detention Center
PMRC	Pitchess Material Reclamation Center
PDD	per resident per day
RFP	Request for Proposals
RMDZ	Recycling Market Development Zone
Roadmap	Roadmap to a Sustainable Waste Management Future
tpd	tons per day
tpy	tons per year
USEPA	United States Environmental Protection Agency
WM	Waste Management



SACHI A. HAMAI
Interim Chief Executive Officer

County of Los Angeles CHIEF EXECUTIVE OFFICE

Kenneth Hahn Hall of Administration
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(213) 974-1101
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September 30, 2015

To: All Department Heads

From: Sachi A. Hamai
Interim Chief Executive Officer

Board of Supervisors
HILDA L. SOLIS
First District

MARK RIDLEY-THOMAS
Second District

SHEILA KUEHL
Third District

DON KNABE
Fourth District

MICHAEL D. ANTONOVICH
Fifth District

ROADMAP TO A SUSTAINABLE WASTE MANAGEMENT FUTURE – ANNUAL REPORT

On April 22, 2014, a Board motion instructed the Department of Public Works (Public Works), in coordination with the Chief Executive Office; the Office of Sustainability; the Departments of Regional Planning, Internal Services, Public Health, Health Services, and the Sheriff; and in consultation with the County Sanitation Districts, to establish a Working Group to develop a Roadmap for the Unincorporated Communities of the County to achieve a Sustainable Waste Management Future (Roadmap). The County Arts Commission, the Departments of Beaches and Harbors, Parks and Recreation, and Fire were added to the Working Group.

On October 21, 2014, the Board adopted the Roadmap to decrease reliance on landfills, including implementation strategies and initiatives for County Unincorporated Communities, Regional/Countywide Areas, and County Operations. The Board directed Public Works to submit annual reports to the Board on the progress of the implementation of the Roadmap and consolidate previously submitted solid waste management status reports, including the Conversion Technologies in the Los Angeles County Six Month Status Update, and the Status Report on Removal of Elsmere Canyon Landfill from the Los Angeles County Countywide Siting Element.

The attached Draft Annual Report will be submitted to the Board by October 21, 2015. If you have any questions or comments regarding the report, please contact Ms. Shari Afshari, Deputy Director at Public Works at (626) 458-4008, or via e-mail at safshari@dpw.lacounty.gov.

SAH:JJ:TT
DSP:acn

Attachments (2)

c: Each Supervisor

U:\CHRONO 2015\CHRONO 2015 (WORD)\UAS\Roadmap to a Sustainable Waste Mgmt Future - Annual Report_Memo to Dept Heads.doc

"To Enrich Lives Through Effective And Caring Service"

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GAIL FARBER, Director

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

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IN REPLY PLEASE

REFER TO FILE: **EP-4**

September 23, 2015

TO: Each Supervisor

FROM: Gail Farber
Director of Public Works

**BOARD MEETING OF OCTOBER 21, 2014, AGENDA ITEM NO. 34
ROADMAP TO A SUSTAINABLE WASTE MANAGEMENT FUTURE
ANNUAL REPORT: OCTOBER 2014 THROUGH OCTOBER 2015**

On October 21, 2014, the Board adopted the Roadmap to a Sustainable Waste Management Future. The Roadmap lays out the general framework for the strategies and initiatives the County can implement in County Unincorporated Communities, Regional/Countywide, and at County Operations to decrease reliance on landfills.

The Board directed the Department of Public Works to submit annual reports to the Board on the progress of the implementation of the Roadmap to a Sustainable Waste Management Future and consolidate previously submitted solid waste management status reports, including the Conversion Technologies in Los Angeles County Six Month Status Update and the Status Report on Removal of Elsmere Canyon Landfill from the Los Angeles County Countywide Siting Element, into these annual reports.

Attached is a report in response to this Board Action, for the period of October 2014 to October 2015. If you have any questions regarding this report, please contact me or your staff may contact Ms. Shari Afshari at (626) 458-4008 or safshari@dpw.lacounty.gov.

Attach.

cc: Chief Executive Office (Sachi Hamai)
Executive Office
All County Department

2015

Report to the Board

Roadmap to a Sustainable Waste Management Future

Prepared by the following County Departments and Special Districts:

Agricultural Commissioner/Weights & Measures	Internal Services
Alternate Public Defender	Medical Examiner – Coroner
Arts Commission	Military and Veterans Affairs
Auditor-Controller	Office of Sustainability
Beaches and Harbors	Parks and Recreation
Board of Supervisors	Probation
Chief Executive Office	Public Health
County Counsel	Public Works
District Attorney	Regional Planning
Fire	Sanitation Districts of Los Angeles County
Health Services	Sheriff
Human Resources	Treasurer and Tax Collector



October 21, 2015

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EXECUTIVE SUMMARY

On October 21, 2014, the Los Angeles County Board of Supervisors (Board) adopted the Roadmap to a Sustainable Waste Management Future (Roadmap). The Roadmap identifies three Focus Areas (County Unincorporated Communities, Regional/Countywide, and County Operations) and lays out the general framework for the strategies and initiatives that the County can implement to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed at landfills.

The Board directed the Department of Public Works (Public Works) in coordination with the Interdepartmental Working Group (Working Group), including the Chief Executive Office (CEO), the Office of Sustainability, the Sheriff and the Departments of Regional Planning, Internal Services, Public Health, Health Services, and the County Sanitation Districts, to develop implementation plans, as appropriate, for the strategies and initiatives within the Roadmap and to solicit feedback from stakeholders regarding the Roadmap. Additionally, the Board directed the Working Group to attain disposal reduction targets and submit annual reports to the Board on the progress of implementation.

Subsequent to the adoption of the Roadmap the Working Group established four Implementation Subcommittees, one for each Focus Area and one for the Outreach and Education Priority Issue, to assist in the development of the implementation plans. The Implementation Subcommittees are comprised of various County Departments, the CEO, Board Office, and County Sanitation Districts.

The Roadmap identified twelve “Priority Issues.” During this first annual reporting period, the Working Group made significant progress on 11 of the 12 priority issues. The following is a highlighted summary of the progress to date for the priority issues:



Facilitating Sustainable Practices: Discussed ways to further increase our diversion rates to meet the disposal reduction targets identified in the Roadmap. Discussions have included evaluating alternate trash collections methods such as reducing collection frequency, adjusting the number of bins per customer, and analyzing whether to move toward an exclusive commercial franchise system from the current non-exclusive system, among many other topics.



Local Green Business & Market Development: Continued to serve as the Recycling Market Development Zone (RMDZ) program zone administrator for Los Angeles County and helped connect businesses that manufacturer products using recycled-content or process materials for recycling with financial and marketing assistance.



Waste Prevention and Source Reduction: Continued to promote the free Los Angeles County Materials Exchange (LACoMAX) program which helps residents, businesses, and organizations find an alternative to the disposal of unwanted materials at landfills. Working on the launch of a food waste prevention program.



Product Stewardship/Extended Producer Responsibility: In response to the Board’s June 2, 2015 motion, prepared a report investigating the feasibility of adopting an ordinance for a pharmaceutical and sharps waste Extended Producer Responsibility (EPR) ordinance in which pharmaceutical manufacturers and producers would develop

a take-back program. Following the Board's August 11, 2015 motion, the development of a draft Ordinance is ongoing.



Organic Waste Management: Because organic waste is the largest component of the waste stream currently being disposed, organics waste management is addressed across all Roadmap Focus Areas and Strategies. A comprehensive Organics Management Plan describing the County's role and efforts to comply with Assembly Bill 1826 (AB 1826, Mandatory Commercial Organics Recycling) has been drafted, and we are beginning the process of identifying and educating businesses required to comply with AB 1826.



Conversion Technologies: Submitted a report to the Board on August 20, 2015 that included clear benchmarks for measuring progress towards establishing conversion technology projects within Los Angeles County. Conversion technologies are critical to reducing our reliance on landfills and recovering energy, fuels, and other products from waste, and the report notes that conversion technology facilities are being successfully developed. The Working Group will continue to facilitate the development of these projects in the County, and Public Works is providing technical assistance, educating stakeholders, and working to remove regulatory barriers.



Household Hazardous and Electronic Waste: Completed feasibility study for constructing additional permanent collection centers at County owned sites. Potential sites will be presented to management in the coming year to decide whether to pursue further.



Construction and Demolition (C&D) Debris: Drafted revisions to the County's C&D Debris Recycling Ordinance, and initiated preparations to meet with public stakeholders, such as land developers, construction companies, demolition companies, C&D debris recycling facilities, and waste haulers which are expected to take place later this year.



Resource Recovery Centers: Providing places to co-locate synergistic diversion-related activities continues to be a priority for the Working Group. However, it is a mid-to long term priority that will be addressed in future years.



Emergency Management and Regional Debris Management Planning: Began preparations for a new Countywide Mass Debris Management Plan which is currently being developed by a consultant and will be shared with all 88 cities upon its completion.



Assessment and Evaluation: In the process of initiating a waste characterization study for the County Unincorporated Communities, which is projected to begin in 2016. A draft Request for Proposals (RFP) has been completed and is expected to be finalized later this year.



Outreach and Education: Began tailoring communications and stakeholder engagement plans, as needed, for initiatives in the three Focus Areas and as part of the development of the various implementation plans. The goal is to communicate key initiatives effectively to the appropriate stakeholders and target audiences.

Additionally, the Working Group addressed the following strategies and initiatives for each of the three Focus Areas:

County Unincorporated Communities: Identifying the largest contributors of waste that are currently being disposed but could be diverted will help identify where resources, efforts, and programs are needed, which will have the greatest impact to achieve the County's disposal reduction targets established in the Roadmap. As a result, a major waste characterization study for the County Unincorporated Communities is projected to begin in 2016. A draft Request for Proposals (RFP) to complete this study has been completed and is expected to be released by the end of 2015. Commercial, institutional, industrial, residential, multifamily, self-haul, and drop off are sub-sectors that identify where various waste streams are generated and where existing and new programs could be initiated, expanded, modified, or eliminated. Each sector has unique waste management practices that need to be examined to identify waste reduction opportunities and determine options for waste diversion processing.

Regional/Countywide: Much of the funding that is used to support countywide programs comes from the Solid Waste Management Fund. As disposal of waste decreases, so does funding for programs. Options discussed included increasing landfill disposal fees, creating a tiered approach for waste processing fees, or creating a waste generation fee. Public Works will continue to seek grants and other funding opportunities.

A significant portion of the waste stream that is currently being disposed is comprised of organic materials. One alternative to landfilling organic waste is processing this material at a Conversion Technology (CT) facility. The County continues to encourage the development of commercial scale CT projects within the County. Working with various cities in the County, Public Works has developed a list of potential CT sites. Many projects within the County are in various stages of development.

County Operations – The Working Group is working to improve coordination between County departments for waste reduction and recycling programs to clearly identify roles and responsibilities. In response to two mandatory recycling laws (AB 341 and AB 1826) which require commercial entities including government buildings to sign up for recycling services for materials such as paper, cardboard, plastic, metal, and organics, it is necessary to know the type of waste and how much is generated by County facilities. The laws specify which facilities must comply based on the amount and type of waste they generate per week. To facilitate this effort and to improve the recycling efforts, Public Works has developed a Commercial and Institutional Recycling Program (CIRP) contract for performing waste studies of County facilities and large venues. The purpose of CIRP is to help County facilities and other institutions to achieve large-scale waste diversion and generally enhance the sustainability of their activities related to materials management. For example, the program would assist entities to develop source reduction policies, environmentally sustainable practices, and zero waste goals.

Additionally, the expiration of service contracts provides an opportunity for improvements in terms of performance and reporting. Public Works is currently working with Internal Services Department (ISD) to re-evaluate the scope of work for the existing waste hauling contracts for County departments. This will help to determine the appropriate method for soliciting a new waste hauling contract which will meet the recycling and waste disposal needs of all County departments.

INTRODUCTION/BACKGROUND

On October 21, 2014, the Los Angeles County Board of Supervisors (Board) adopted the Roadmap to a Sustainable Waste Management Future (Roadmap). The Roadmap identifies three Focus Areas (County Unincorporated Communities, Regional/Countywide, and County Operations) and lays out the general framework for the strategies and initiatives that the County can implement to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed at landfills.

The Board directed the Department of Public Works (Public Works) in coordination with the Interdepartmental Working Group (Working Group) to develop implementation plans, as appropriate, for the strategies and initiatives within the Roadmap and to solicit feedback from residents, businesses, public agencies, the waste industry, environmental organizations, and other stakeholders regarding the Roadmap. The implementation plans will incorporate specific details on feasibility, costs, timeline, and proposed funding. Stakeholder engagement may be conducted during the development of the implementation plans, as appropriate, or prior to implementation of the appropriate strategies and initiatives. Additionally, the Board directed the Working Group to attain the following disposal reduction targets and submit annual reports to the Board on the progress of implementation:

- Divert 80 percent of waste from landfill disposal by 2025, equivalent to disposing no more than 3 pounds per person per day;
- Divert 90 percent of waste from landfill disposal by 2035, equivalent to disposing no more than 1.5 pounds per person per day; and
- Divert 95+ percent of waste from landfill disposal by 2045, equivalent to disposing no more than 0.75 pounds per person per day.

The Board also directed that the annual report serve to consolidate other solid waste management status reports including the Conversion Technologies in Los Angeles County Six Month Status Update and the Status Report on Removal of Elsmere Canyon Landfill from the Los Angeles County Countywide Siting Element. These reports will be included at the end of this annual report.

The purpose of the Roadmap is to provide general strategies for the County to achieve a sustainable waste management future and the disposal reduction targets identified above. The Roadmap identified the following four broad strategies for the three Focus Areas: (1) Programs and Services, (2) Measuring Results, (3) Facilities and Infrastructure, and (4) Outreach and Education. These four strategies establish a framework for the implementation of specific initiatives associated with the County Unincorporated Communities' residential and commercial sectors, Regional/Countywide infrastructure, and County operations, which include County-owned and/or operated facilities and offices as well as County-sponsored events.

In order to meet the objectives of the Roadmap and comply with current and future mandates, the Working Group established Implementation Subcommittees for each Focus Area and Outreach and Education. Each Implementation Subcommittee met monthly and supplemented their regular meetings with conference calls, webinars, and other forms of communication to

accomplish its objectives. Identifying and reaching out to Departments and other organizations that are essential to specific initiatives has also been highly effective and has contributed to its inaugural year's accomplishments.

The Los Angeles County unincorporated area has been successful in reducing and diverting solid waste from landfills. Its per capita disposal rate are in compliance with the requirements of AB 939 (50% diversion) and SB 1016 7.4 pounds generated per resident per day (ppd) and continues to decline from 5.15 in 2008 to 3.92 (74% diversion) in 2014. While some of this may be attributed to a slow economy, we believe the County's aggressive efforts and implementation of a vast array of waste reduction, recycling, and public education programs have made a significant difference.

The following report expands on the Roadmap's progress and accomplishments in its initial year of implementation. The Roadmap includes over 100 short to long-term initiatives to recover organics, including food waste, to highest and best uses; advocate for extended producer responsibility; evaluate County purchasing practices; develop conversion technologies and integrated materials recovery facilities, and much more. This report focuses on the initiatives with significant progress this year.

PRIORITY ISSUES

Facilitating Sustainable Practices

The County has made great progress in recycling and waste diversion options; for example the 3-bin system of trash collection that includes curbside recycling and green waste collection is now nearly universal throughout the County Unincorporated Communities. Since adoption of the Roadmap, the Working Group and Implementation Subcommittees have had several productive discussions on ways to further increase our diversion rates to meet the disposal reduction targets identified in the Roadmap. These discussions have included looking into alternate trash collection methods such as reducing collection frequency, adjusting the number of bins per customer, analyzing whether to move toward an exclusive commercial franchise system from the current non-exclusive system, among many other topics. Another very big challenge that has been discussed is having sustainable funding to support such efforts, since a large part of the funding for these activities currently is based on the Solid Waste Management Fee collected as disposal volume decreases so will the funding.

Local Green Business & Market Development

Local Green Business & Market Development: The State of California has a program titled the Recycling Market Development Zone (RMDZ) where County staff serves as the zone administrator for Los Angeles County including the unincorporated County areas as well as 19 member cities. The RMDZ program combines recycling with economic development to fuel new businesses, expand existing ones, create jobs, and divert waste from landfills. This program provides attractive loans, technical assistance, and free product marketing to businesses that use materials from the waste stream to manufacture their products and are located in a zone. In August 2015, a \$2.0 million loan was approved for U.S. Corrugated of Los Angeles, Inc., a local company, which may now purchase equipment for the new corrugated packaging manufacturing facility in Santa Fe Springs, CA. Local green business and market development efforts during this reporting period are discussed in further detail under the Regional/Countywide section of this report.

Waste Prevention and Source Reduction

The U.S. Environmental Protection Agency (USEPA) defines source reduction as activities designed to reduce the volume or toxicity of waste generated including the design and manufacture of products with minimum toxic content, minimum volume of material, and/or a longer useful life. Source reduction is fundamentally different from the other waste management approaches. It is at the top of the County's resource management hierarchy because it is considered to be more effective and yield the highest benefits from an environmental, economic, and social standpoint. Finding opportunities to remove barriers to donating unwanted or excess materials at County departments will help to prevent waste. The LACoMAX program is designed to help residents, businesses, and organizations find an alternative to the disposal of unwanted excess materials at landfills. Details on the waste prevention efforts are discussed in further detail under the County Unincorporated Communities section.

Product Stewardship/Extended Producer Responsibility

Extended Producer Responsibility (EPR) is a policy approach in which a manufacturer or producer's responsibility, including cost for a product, is extended to the post-consumer stage of a product's life cycle. EPR provides incentive for producers to design their products in a less hazardous and/or easier to manage/recyclable manner at the end of their useful life. In 2008, a Board motion reaffirmed the County's support for EPR and made the County a member of the California Product Stewardship Council. During this reporting period, at the Board's direction, the Working Group investigated the feasibility of adopting an ordinance for a pharmaceutical and sharps waste EPR ordinance in which pharmaceutical manufacturers and producers would develop a take-back program. This ongoing effort is described in further detail under the Unincorporated Communities and Regional/Countywide section of the report.

Organic Waste Management

AB 1826 requires a business generating specified thresholds beginning with 8 cubic yards or more per week of organic waste to arrange for "recycling services" for that organic waste. It also requires local jurisdictions to implement an organic waste recycling program to divert organic waste from businesses by April 1, 2016. If the statewide goal of a 50 percent reduction in organic disposal is not met by 2020, the threshold drops to 2 cubic yards or more per week of any commercial waste by the Summer/Fall of 2021. Therefore, the Working Group and Subcommittees are preparing a comprehensive Organics Management Plan. Since organic waste is the largest component of the waste stream currently being disposed, it is discussed in further detail across all Focus Areas.

Conversion Technologies

The goal for the Conversion Technologies Program is to reduce our dependence on landfills and ensure there is sufficient, sustainable capacity available to the County to meet future needs. Benchmarks for the program have been set based on current waste disposal quantities and the disposal reduction targets established in the Roadmap as well as State laws, such as AB 1828 which established a Statewide goal to reduce the amount of organic waste disposed in landfills from 2014 volumes by at least 50 percent by 2020. To meet this goal in Los Angeles County would require diverting approximately 5,000 tons per day of organic waste from landfill disposal. Conversion technology accomplishments during this reporting period are discussed in further detail under the Regional/Countywide section of this report.

Household Hazardous Waste

The County operates a substantial household hazardous waste (HHW) and electronic waste (E-Waste) collection program. Through strategic partnerships, the County coordinates over 60 mobile events with participation from over 47,000 households each year, funds the operation of nine permanent collection centers, and provides convenient additional drop-off locations for batteries, sharps and pharmaceuticals throughout the County. According to the U.S. EPA and County data, permanent collection centers require a larger upfront investment than one-day collection, but they may reduce costs per participant in the long run. Identifying potential County-owned sites for this purpose will help address the need. HHW efforts during this reporting period are discussed in further detail under the Regional/Countywide section of this report.

Construction and Demolition Debris Management

In January 2005, the Board adopted the County's Construction and Demolition (C&D) Debris Recycling Ordinance. C&D debris consists of materials like lumber, drywall, metals, masonry, carpet, plastics, pipe, rocks, dirt, paper, cardboard, or green waste related to land development. Revisions to the C&D Debris Recycling Ordinance will address greater diversion requirements from landfills and potential security deposits prior to issuance of permits to encourage meeting recycling requirements and completion of recycling reports. Prior to amending the Ordinance, stakeholders will be consulted for their input. Additional details on the proposed revision of the Ordinance are discussed under the Unincorporated Area Communities section of the report.

Resource Recovery Centers

A significant portion of materials disposed in the unincorporated area of the County are from self-haul customers at landfills and transfer stations. Resource Recovery Parks or Resource Recovery Centers are places where materials can be dropped off for donation or buyback and provides a place to co-locate synergistic diversion-related activities, including reuse, recycling, composting, processing, manufacturing, and distribution. A Resource Recovery Park can make the landfill or transfer station more sustainable by diversifying revenue for the facility owner, conserving capacity, and extending the useful life of those facilities.

Emergency Management and Regional Debris Management Planning

The County's unique geography makes it susceptible to various forms of natural disasters including earthquakes, landslides, wildfires, flooding, mudflows, and tsunamis. In addition to natural disasters, there could also be man-made disasters. These occurrences have the potential to create large quantities of debris, which must be managed in order to protect and maintain public health and safety following a major disaster event that would impact the Los Angeles County Region, the unincorporated area of Los Angeles County and the contracted Cities. This effort is discussed in more detail in the Regional/Countywide section of this report.

Assessment and Evaluation

Identifying the largest contributors to the waste disposal system will help shape where resources and efforts are needed to achieve the County's disposal reduction goals. This will enable the County to maximize short-term waste diversion while prospective strategies and initiatives that will take longer to develop are being researched and developed, and appropriate funds are pursued and secured. Public Works is in the process of initiating a waste characterization study for the County Unincorporated Communities, which is projected to begin in

2016. Details on this effort are discussed in the County Unincorporated Communities section of this report.

Outreach and Education

Effective public education will cultivate behavioral change that will lead toward a waste-free, safe, and healthy future in the County. The main goal of the Outreach and Education efforts is to support each Focus Area to communicate key initiatives effectively, to the appropriate stakeholders and target audiences. Given the importance of Outreach and Education, tailored communications and marketing messages are needed for each of the three Focus Areas.

To advance our efforts in general as well as support specific initiatives in the Roadmap, the Working Group identified the following outreach objectives:

1. Branding (Tagline/Slogan) – Developed a tagline and image that will allow people to identify and recognize the Roadmap efforts. The tagline is Sustainable is Attainable.
2. Identify Programs and Resources – Continue to identify programs and resources used by other jurisdictions that we can adapt to the County to help meet the diversion goals set in the Roadmap.
3. Develop Best Management Practices – Look at what programs, services and resources the County has to offer, what other jurisdictions have, and develop resources and best practices that can easily be shared and utilized.
4. Communication Plans – Developing an internal communications plan to report within the County family, and developing external communications and stakeholder engagement plans for each key initiative to conduct tailored outreach and education.
5. Website – Developed a website to house information regarding the Roadmap such as meeting agendas, summaries, presentations, fact sheets, tool kits, etc. The purpose of the website will be to show transparency and tell our story.
6. Target Each Focus Area with a Unique Outreach and Educational Program: Recognizing the different audiences for Unincorporated Communities, County Operations, and Regional/Countywide Focus Areas and tailoring outreach and educational programs accordingly.

Public Works plans to issue an RFP for a technical stakeholder engagement/outreach contract. The draft language is currently being developed and will include an arts component with guidance from the Arts Commission. The work of the creative community can be used to advance the strategies and initiatives of the Roadmap. The RFP will also include stakeholder engagement tasks for the strategies and initiatives for each of the Focus Areas of the Roadmap.

Detailed discussion of Outreach and Education for Unincorporated Communities, Regional/Countywide areas, and County Operations are discussed in the respective sections of this report.

PROGRESS OF INITIATIVES BY FOCUS AREA

The Working Group identified and worked on numerous initiatives during this reporting period. The following provides the progress and next steps for those initiatives advanced by the Working Group to date for this reporting period.

County Unincorporated Communities

Strategy 1: Programs and Services

Initiative A: Institutionalize Waste Prevention and Source Reduction in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Explore and if feasible, develop and implement more aggressive reuse programs.
 - ◆ Promote reuse and repair for residents, businesses, and non-profits with repair workshops (Repair Café and iFixit models); web-based directories for sharing reusable materials such as LACoMAX, the County's free materials exchange network; thrift stores and repair shops; reuse depots like East Bay Depot for Creative Reuse; and/or Tool Lending Libraries.

Background

LACoMAX is a free service provided by Public Works. The primary goal of LACoMAX is to conserve landfill space by helping businesses, organizations, and institutions find alternatives to the disposal of valuable materials which are presently discarded as waste.

Users of this on-line materials exchange service can browse or post listings of a wide variety of available and wanted materials. Listings are categorized by 15 material classifications and six regions and include common items such as wood pallets, out-of-fashion textiles, and chemicals as well as more uncommon items. The listings also contain contact information, allowing you to make direct contact with the listing party. All exchanges are coordinated between the two interested parties.

Accomplishments and Milestones for the Next Annual Reporting Period

To generate traffic to the site various forms of advertising have been used such as flyers, attending Earth Day events, and tweets with information on current listings from the website. During Earth Month 2015 we saw an increase in traffic to the site as a direct result of our tweets and advertising. To increase awareness of the program we plan to attend and/or provide informational flyers at community events in the unincorporated areas. We are also encouraging interdepartmental collaboration such as with the Arts Commission to tap into their large and diverse arts network that has the potential to create opportunities related to diversion recycling and repurposing.

Initiative B: Advocate for Extended Producer and Manufacturer Responsibility in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Explore the feasibility of establishing a County EPR ordinance for materials such as pharmaceuticals and needles to ensure that collected items are properly managed in accordance with federal, State and local laws using environmentally sound practices.
- ❖ Support voluntary take-back initiatives. Encourage and incentivize businesses and institutions to take back products and packaging they sell and are sold by others.

Background

Currently, there are very limited safe, convenient, and sustainable options for the public to dispose of pharmaceuticals and sharps waste in Los Angeles County and there is a public safety and environmental need for safe disposal. Pharmaceutical waste includes unused and/or expired over-the-counter or prescription tablets, oral liquids and injectable products, but also may contain biomedical or bio-hazardous waste. In 2012, Alameda County passed the nation's first safe drug disposal ordinance requiring producers of prescription drugs to develop, manage, and pay for EPR programs to collect and dispose of unused medications from the County's residential consumers. The Counties of San Francisco, San Mateo, and Santa Clara passed ordinances similar to Alameda County's. On May 27, 2015, the U.S. Supreme Court declined to review a challenge to Alameda County's Drug Disposal Ordinance. The Court's decision upholds the 9th Circuit Court of Appeals' opinion of September 30, 2014, which found that the ordinance, requiring pharmaceutical manufacturers to fund drug take-back programs in the County, did not interfere with interstate commerce or discriminate against out-of-state manufacturers. Today in Los Angeles County, publicly financed take-back programs such as the drop boxes at the 21 Sheriff's stations are the only safe options for residents to dispose of sharps and pharmaceuticals; however, these programs are simply not adequate to manage the amount of unused pharmaceuticals produced in the County.

Accomplishments

On June 2, 2015, the Board instructed Public Works, in coordination with the CEO, County Counsel, Sheriff, Health Services, Mental Health, Public Health, and the County Sanitation Districts to report back in 30 days with findings and recommendations on the following: investigate the feasibility of adopting an EPR ordinance for pharmaceutical take back and investigate the feasibility of utilizing the County's purchasing power to negotiate producer/pharmacy take-back programs. The motion also requested a report back in four months regarding options for reducing improper use and disposal of pharmaceuticals; educating residents on the importance of properly storing and disposing of unused pharmaceuticals and the negative effects they can have on the environment; and opportunities to actively support and pursue extended producer responsibility legislation and take-back programs for sharps and pharmaceuticals.

On July 2, 2015, a report was submitted to the Board entitled Managing Unused and Expired Medications and Sharps Waste in The County of Los Angeles (Report) which recommended the County prepare a pharmaceutical and sharps waste EPR ordinance in which pharmaceutical manufacturers and producers would develop and finance a product stewardship plan that addresses a take-back program providing: 1) collection services; 2) handling and disposal procedures; 3) public education and outreach strategies; and 4) tracking reports of disposal amounts, short-term and long-term goals for collection amounts, and education and promotion programs.

On August 11, 2015, the Board directed the CEO in collaboration with the County's Sustainability Council and the Pharmaceutical EPR Working Group to: 1) draft an ordinance which requires manufacturers and producers of prescription and nonprescription drugs and sharps to develop product stewardship take-back programs to collect and dispose of unused/unwanted pharmaceutical and sharps waste from County residents; 2) initiate stakeholder engagement with the pharmaceutical industry and other stakeholders to solicit feedback on the ordinance; communicate the need to provide safe, convenient, and sustainably financed take-back options for consumers to properly dispose of pharmaceutical and sharps waste; and generate awareness about the collection program that will be created; and 3) return to the Board within six months with the recommended Ordinance for consideration. An amendment was made to initiate stakeholder engagement before drafting the ordinance.

On September 28, 2015, two stakeholder meetings were facilitated by the County's EPR Working Group. The first meeting was held with an Ordinance Advisory Group made up of representatives of pharmaceutical and sharps manufacturers, retailers, dispensers, and environmental, health and consumer advocacy organizations. The second meeting was a public stakeholder meeting open to all interested residents and businesses. The purpose of the meetings was to engage with stakeholders and solicit feedback that will be used to prepare a draft Ordinance.

On October 2, 2015, a report was submitted to the Board with findings and recommendations related to all of the items requested in the original June 2, 2015 Board motion as well as a status update regarding the Board's August 11, 2014 motion.

Milestones for the Next Annual Reporting Period

The EPR Working Group will continue to work together and host meetings to refine the concept of a pharmaceutical and sharps waste EPR Ordinance. The Draft Ordinance will be submitted to the Board by February 11, 2016.

Initiative C: Make Sustainability Easy and Discourage "Trashing" in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Evaluate and implement, if feasible, alternative trash collection methods such as: reducing trash collection frequency; adjusting the size of bins; implementing a volume or weight-based trash collection system (pay as you throw); collecting additional organics in the green waste bin; and/or a two-bin collection system (wet and dry) processed at a Materials Recovery Facility (MRF) for separation and recovery.

Background

In order to effectively reduce the amount of waste sent to disposal from the unincorporated areas, it will be necessary to make significant adjustments in the way we separate, collect, and process materials generated by residents and businesses in the County Unincorporated Areas. Different collection systems have a variety of pros and cons, and any change will require understanding and support from those affected, including the haulers currently picking up materials. In addition, the County Unincorporated Areas are very diverse and therefore one solution may not be ideally suited to all areas of the County.

Accomplishments and Milestones for the Next Annual Reporting Period

Completing the Organics Options Analysis, discussed in the next section, will assist us in determining what changes to the current system may be needed to comply with Assembly Bill 1826 (2014 Statutes) and what changes may be infeasible. The Working Group will then identify certain recommended changes, which will then be piloted in different areas of the County and fine-tuned before being rolled out further.

Initiative D: Recover Organics, including Food Waste, to the Highest and Best Uses in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Collaborate with waste haulers to develop organics collection and diversion programs in County Unincorporated Communities, where feasible.
- ❖ Explore and implement, if feasible, Food DROP for unused edibles in County Unincorporated Communities.

Background

In 2013, the County Unincorporated Communities sent approximately 764,000 tons of waste to landfills. Based on the percentages determined from the County's 2006 waste characterization studies performed on the County Unincorporated Communities, approximately 500,000 tons of that waste annually, equivalent to approximately 1,600 tons per day (tpd), would be classified as "organic waste." Organic waste accounts for over 66 percent of the entire unincorporated communities' wasted materials. About half of the organic waste can be recovered such as lumber, paper, cardboard, or soil whereas the other half can be composted such as food, leaves, or grass.

Food waste makes up a large percentage of each of the commercial, multi-family, and single-family sectors' waste streams, and therefore, an important aspect in organic waste diversion. In the commercial sector, organic waste alone comprises approximately 23 percent of the waste stream.

Accomplishments and Milestones for the Next Annual Reporting Period

The identification and education of businesses meeting the threshold in unincorporated areas began in February 2015 resulting in the collection of initial data:

- Waste haulers operating under the Commercial Franchise service more than 10,000 accounts, providing trash collection for businesses and multi-family units in unincorporated County areas.
- Public Works identified 1,300 accounts with the potential to generate a large amount of organic waste that may first need to comply with the first phase of AB 1826, which applies to businesses who generate 8 cubic yards or more of organic waste per week.

The Organics Management Plan for Unincorporated Area Communities will describe the County's role and efforts to comply with AB 1826 including identification of unincorporated area businesses that will be required to comply with AB 1826; and educating businesses on organic recycling; developing monitoring tools; and gaining an understanding of barriers, and potential solutions to barriers involved with organic recycling. Potential options for commercial organics collection will be addressed such as source separation or wet/dry containers as well as established methods to ensure success such as an exclusive franchise system or an organics ordinance. The unincorporated organics plan with a recommended collection method is expected to be completed by December 31, 2015.

Food Donation Program - In addition, Public Works working closely with Public Health is developing a food donation and recovery program similar to the Waste Not OC program in Orange County. This program will focus on educating businesses in Los Angeles County about proper food donation and ways to get unused food to organizations that help feed hungry people.

Collection of Food Waste Pilot Project - In September of 2015, the County initiated a pilot food waste collection program from select businesses in the Firestone Garbage Disposal District (GDD). Republic Services, the waste hauler contracted to provide waste and recycling services for residents and businesses in this District, outreached to restaurants and other large food waste generators in the District to sign them up to participate in this pilot program. During the pilot, Republic Services will receive an incentive to divert food waste for select businesses and deliver it to the Puente Hills

Materials Recovery Facility operated by the County Sanitation Districts, who will subsequently process the waste and deliver it to an organic diversion facility. Ultimately, the intent is to augment the food waste pilot program that sends food waste to the County Sanitation Districts' Waste Water Treatment Plant in Carson for co-digestion with sewage sludge.

Initiative E: Maximize Diversion of Construction and Demolition Debris in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Revise the C&D Debris Recycling Ordinance

Background

In January 2005, the Board adopted the Construction and Demolition (C&D) Debris Recycling Ordinance. The existing ordinance requires C&D projects in the unincorporated County areas to recycle or reuse at least 50 percent of the debris generated. However, still roughly 25 percent, (by weight), of the County's unincorporated area total disposed tonnage is made up of C&D material and more can be done to ensure that C&D materials are kept out of landfills. There are a number of facilities that will process and divert C&D debris within the County, recovering this material and offering it for beneficial activities within the County. The rates to send this material to such C&D processors is often lower than landfill disposal rates, so this may serve as an incentive for businesses to increase their participation in the recycling and reuse program offered by the County. Additionally, establishing higher minimum diversion rates for C&D materials will likely save project developers money while benefiting the environment and the local economy.

There are currently 31 cities within the County that have a C&D Ordinance. Of these, 21 cities require a security deposit prior to the permits being issued. Experience has demonstrated that compliance is much higher when a security deposit is required. The deposit is an incentive to comply with the recycling requirement since most jurisdictions will return all or most of the security deposit if the recycling requirements are met. For Public Works, about 64 percent of applicants filed the Final Recycling Report as required. The Department estimates that if a security deposit were required, compliance would increase to more than 80 percent. The County would benefit by being able to report additional C&D debris tonnage being recycled as well as diverting waste from landfills. Since the administrative penalties would be equal to the amount of the security deposit, no additional staff time is required to issue or pursue penalties. This change would make the process more cost-effective, consistent or uniform, and efficient.

At this time, applicants may submit paperwork to staff via email, fax, or at the public counter. An electronic application is currently under development and when functional will allow applicants to complete and file the necessary paperwork online. This will minimize errors as the applicant will type in the information, expedite processing by staff, and reduce the number of phone calls, emails, faxes, and visits to the public counter.

The following data has been gathered from July 1, 2005 to June 30, 2014 on C&D plans:

- 3,869 C&D plans approved
- 2,495 of the 3,869 C&D approved plans submitted Final Compliance Reports
 - 1,374 C&D projects did not submit Final Compliance Reports
- 127 C&D projects were issued Administrative monetary penalties
 - 56 of the 127 C&D projects paid the Administrative monetary penalties

During calendar year 2014, for the unincorporated County areas, completed projects generated 61,997 tons of C&D debris and recycled 50,258 tons of C&D debris, for an overall recycling rate of 81 percent. In addition, projects generated 75,181 tons of soil and recycled the same amount.

Accomplishments

With input from representatives from Building and Safety and the Roadmap Working Group's County Unincorporated Communities Subcommittee, proposed revisions to the C&D Debris Recycling Ordinance were drafted including (1) raising the requirement to 70 percent of C&D material to be recycled or reused; and (2) requiring a security deposit as an incentive for businesses to comply with the recycling requirement. Preparations have been made to meet with public stakeholders such as land developers, construction companies, demolition companies, C&D debris recycling facilities, and waste haulers.

Milestones for the Next Annual Reporting Period

Public Works will submit the revised C&D Debris Recycling Ordinance to the Board of Supervisors in the next reporting cycle.

Strategy 2: Measuring Results

Initiative A: Waste Sector Assessment in the County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Conduct an assessment of waste sectors that are sending waste to disposal facilities
 - ◆ Conduct regular Waste Characterization Studies for entire County Unincorporated Communities (all sectors) at 5-10 year intervals to determine material types being disposed which could ultimately be recycled. Include MRFs and transfer stations, as well as self-haul, scavenging, and recycling drop off centers to determine accurate generation and diversion rates.

Background

Disposal reduction goals will be more achievable if the County first identifies the largest contributors to the waste disposal system and further defines the contributors by their unique disposal characteristics such as commercial, institutional, industrial, and residential. Once these measurements are obtained, programs can be initiated, expanded, modified, or eliminated to help achieve the Roadmap's long-term disposal targets. Each sector has unique waste management practices that once understood and measured can be assessed for opportunities and options for waste diversion.

The 2005, waste characterization found that the County Unincorporated Communities generated approximately 2.9 million tons of materials

- Equivalent to 14.8 ppd,
 - 1.45 million tons were being disposed at landfills.
 - resulting in a diversion rate of 50 percent for the County, compared to a 1990 baseline.
- Currently, the County Unincorporated Communities dispose 4 ppd, achieving approximately a 70 percent diversion rate with respect to 2005 as the baseline year.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works is in the process of initiating a waste characterization study for the County Unincorporated Communities, which is projected to begin in 2016. A draft Request for Proposals

(RFP) has been completed and is expected to be finalized later this year. Public Works will examine the solid waste composition and generation rates, and the highest and best use alternatives for diverting the major components of the waste stream to achieve the long-term disposal targets. A large-scale study may be needed every five years, with smaller individual assessments on a more frequent basis, including waste surveys at County facilities.

The Working Group plans to assess the success of existing program measurements that have resulted in successful waste reduction programs, evaluating the feasibility of implementing them in the County, and assessing how these new programs would assist in achieving the County's overarching goals. Each new program or policy recommended through the Sustainable Waste Management Roadmap should be tailored to location and customer and coupled with clear, meaningful, and achievable performance measures. With an ongoing baseline of disposal and diversion measurements, we can assess whether different programs and policies are effective in achieving the long-term disposal reduction targets. The County may need multiple solutions tailored to specific situations. Existing County programs need to be evaluated for effectiveness, costs, and determination of whether they should be maintained at their current resource expenditure level, expanded and/or modified, or eliminated.

Strategy 3: Facilities and Infrastructure

Initiative (B) - Organics Processing Infrastructure in the County Unincorporated Communities:

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Evaluate options to encourage the development of local organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations, to assist businesses in the County Unincorporated Communities with AB 1826 compliance.

Background:

As businesses begin to comply with Assembly Bill 1826 (AB 1826, Mandatory Commercial Organics Recycling), additional organic waste such as food waste and green waste will be separately collected. The current local organics diversion facilities will not be able to process all of this additional material, therefore it is important to evaluate options to encourage the development of additional facilities and/or expansion of current facilities to meet this new demand.

Accomplishments and Milestones for the Next Annual Reporting Period

The Department of Regional Planning recently completed the revised General Plan for Los Angeles County, which placed additional emphasis on sustainability and enabling critical infrastructure such as organics diversion facilities. Regional Planning is now beginning to review the County's Recycling Ordinance, in order to update obsolete definitions and streamline the process for diversion facilities of all types, including organic diversion facilities, while continuing to protect the public's health and safety and the environment. As discussed above, the implementation of the AB 1826 plan for the County Unincorporated Communities will encourage additional organic waste separation and collection, which will facilitate the development of organic diversion facilities.

Strategy 4: Outreach and Education

Initiative A: Communication Action Plan for County Unincorporated Communities:

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Develop an outline for a unique communication plan, focused at the unincorporated community level based on demographics, resources, and commercial and industrial businesses in the targeted areas.
 - ◆ Initiate a unifying slogan such as “Don’t Waste Your Waste” in the outreach campaign, promoting the Four R’s (Reduce, Reuse, Recycle, Rethink) to effect behavioral change in residents and businesses.

Background:

Since the audiences and affected stakeholders vary from initiative to initiative, it is important to develop unique communications plans for each distinct initiative or program in the Roadmap. At the same time, having a unifying slogan can help stakeholders to view these diverse initiatives as being interconnected, and help to build interest and engagement while amplifying messaging campaigns.

Accomplishments and Milestones for the Next Annual Reporting Period

The Outreach and Education Subcommittee was effective in facilitating a number of discussions that improved communications related to County Unincorporated Area initiatives. This included developing specific communications plans for initiatives such as the revision of the County’s Construction and Demolition Debris Recycling Ordinance. The Subcommittee also led the development of a unifying slogan: ***Sustainable is Attainable: Roadmap to a Waste Free Future***. This slogan and the new logo will be used to connect different initiatives of the Roadmap as stakeholder engagement accelerates.

Regional/Countywide

Strategy 1: Programs and Services

Initiative A: Institutionalize Waste Prevention and Source Reduction at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Evaluate with local municipalities and other public agencies opportunities to implement policies, such as EPR Ordinances.

Background

As directed by the Board, an EPR Pharmaceutical Working Group consisting of many Departments that also participate in the Roadmap Working Group is developing a draft EPR Ordinance for pharmaceutical and sharps waste. This Ordinance is discussed in more detail under the County Unincorporated Communities, Initiative B of Strategy 1.

Accomplishments and Milestones for the Next Annual Reporting Period

Since the County Public Health Officer serves as the health officer for 85 of the 88 cities in Los Angeles County, County Counsel is investigating the most effective ways to implement the Ordinance on a Countywide basis to improve its effectiveness. This discussion is ongoing and will be a part of the recommendation submitted to the Board in February 2016.

Initiative E: Maximize Diversion of Household Hazardous Waste and Electronic Waste at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Work with cities and landfill operators to increase the number of permanent HHW and E-Waste collection centers where feasible.
 - Identify potential locations convenient to the community to increase participation and reduce the amount of toxic materials improperly disposed.

Background

One of the initiatives identified in the Roadmap was to maximize the diversion of household hazardous waste (HHW) and electronic waste (E-Waste) at a Regional/Countywide level. The County operates the largest HHW and E-Waste program in the country with participation from over 43,000 households each year. The HHW/E-Waste program works through partnerships with the Sanitation Districts of Los Angeles County, the City of Los Angeles, the Sheriff's Department, the County Department of Public Health and Health Services, the Department of Public Library, and all cities in the County of Los Angeles. Public Works partners with the County Sanitation Districts to conduct approximately 60 mobile events annually and funds the operation of nine permanent collection centers.

Collection Statistics:

- Approximately 11 million pounds of HHW and E-Waste are collected through mobile events annually.
- 523,000 pounds of HHW/E-Waste are collected through the Antelope Valley Environmental Collection Center annually.
- 611,000 pounds of HHW/E-Waste are collected through EDCO Environmental Collection Center annually.
- 6,800,000 pounds of HHW/E-Waste are collected through the City's S.A.F.E. Centers annually.

The cost of the HHW program is substantial at approximately \$10.4 million dollars annually. These costs include the routine operation of permanent centers, facilitation of temporary events including setup, collection and disposal of the materials, and administrative functions.

Mobile Event Costs:

- Average operational cost per pound - \$0.80
- Average operational cost per event - \$48,000
- Average households participating per event - 800
- Average cost per household per event - \$60

Permanent Collection Center Costs:

- Average operational cost per pound - \$0.42
- Average operational cost per event - \$20,000
- Average household participation per event - 800
- Average cost per household per event - \$25

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works conducted a study to determine whether temporary events or permanent collection centers were more effective as well as cost efficient. The conclusion of the study determined a mixed-model approach consisting of both mobile events and permanent centers was the best approach. Subsequently, Public Works performed a feasibility analysis of a number of County owned sites as potential locations for new permanent centers. These potential sites will be presented to management in the coming year to decide whether to pursue further design work or to look for other alternatives.

Strategy 2: Measuring Results

Initiative B: Ensure Sustainable Funding and Alignment of Incentives with Program Goals at Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Evaluate and modify, if needed, existing revenue streams to mitigate funding lost from waste reduction efforts, and align incentives with waste reduction goals.
 - If revenues are projected to decline and programs cannot be realigned to mitigate this impact, identify options to augment revenue streams or accomplish the goals of the programs through other mechanisms, in order to ensure adequate funding is available to carry out programs and policies.

Background

Much of the funding that is used to support Countywide programs comes from the Solid Waste Management Fund. This fund receives revenue for each ton of waste that is generated and disposed of in Los Angeles. Increased diversion and less disposal of material are some of the underlying goals and driving forces of the Roadmap; however, as disposal of waste decreases so does funding for programs.

A significant portion of the waste stream is comprised of organic materials. One alternative to landfilling organic waste is processing it at a CT facility. The State of California has several funding mechanisms available to assist with the development of CT facilities. Promising funding mechanisms include the California Pollution Control Financing Authority program, the Greenhouse Gas Reduction grant and loan program, the Recycling Market Development Zone program, California Energy Commission, the Renewable Portfolio Standard, and the Low Carbon Fuel Standard.

Accomplishments and Milestones for the Next Annual Reporting Period

Some of the Working Group discussions related to sustainable funding included increasing landfill disposal fees, creating a tiered approach for waste processing fees, or creating a waste generation fee. The Working Group will evaluate these options and consider actions at the State and local level to develop a set of recommendations for consideration at a future date.

Public Works continues to seek grants and other funding opportunities such as fees for new solid waste facilities in the County Unincorporated Communities seeking conditional use permits. Public Works staff has provided extensive feedback on legislative actions, regulatory changes, and incentives being proposed by CalRecycle through the State budget process. Staff also partnered with the Bioenergy Association of California to advocate for increased waste diversion funding.

Strategy 3: Facilities and Infrastructure

Initiative A: Develop Conversion Technologies and Integrated Materials Recovery Facilities at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Continue to sponsor and support legislation to encourage the environmentally sound development of conversion technologies and build a coalition of organizations to do so.
- ❖ Evaluate options to establish incentives in order to level the cost differential between conversion technology facilities and landfills, or otherwise incentivize waste haulers to direct waste to such facilities.
- ❖ Increase awareness of the www.SoCalConversion.org website as a one-stop portal for information regarding local project development, local ordinances, permitting processes, and general information and resources related to conversion technology development.

Background

The County's efforts to achieve waste diversion are guided by the new waste management paradigm, which places a greater emphasis on source reduction, reuse, recycling, and otherwise maximizing the benefits and use of materials over disposal. However, source reduction, reuse and recycling alone will not be enough to achieve the longer-term targets identified in the Roadmap. To address the fraction of the waste stream that cannot be feasibly recycled, the development of conversion technology (CT) facilities is a vital aspect of the new paradigm and necessary to achieve a truly sustainable waste management future. As previously discussed in the report, AB 1826 requires businesses to recycle organic material. It is anticipated that much of the organic material can be recycled with CTs such as anaerobic digestion.

Accomplishments and Milestones for the Next Annual Reporting Period

The County is seen as a leader by the solid waste industry in evaluating and promoting the development of CTs, and continues to encourage the development of commercial scale CT projects within the County. Public Works continues to actively pursue and support the passage of legislation that encourages the siting of CT facilities. Public Works presents at various waste conferences on our CT program and shares knowledge and resources in the goal of promoting CT. Working with various cities in the County, Public Works has developed a list of potential CT sites. CT companies have also consulted with Public Works to discuss permitting of CT sites in the County. A number of CT projects within the County are in various stages of development, including:

- Lancaster Landfill CT Facility: Public Works is currently assisting Waste Management (WM) with environmental review for a full-scale organics digestion CT facility at Lancaster Landfill. Public Works has done extensive research of the statewide Programmatic Environmental Impact Report for Anaerobic Digestion, as well as other projects' environmental documents such as San Jose's anaerobic digestion facility, and developed recommendations for the environmental documentation for this project.
- Joint Water Pollution Control Plant (JWPCP): The County Sanitation Districts, who serve as active members of the Working Group, are currently operating a CT demonstration project for co-digesting food waste at the District's JWPCP in Carson, CA. As part of this project, WM collects food waste, cleans and processes it into slurry, and delivers it to the JWPCP where it is co-digested with sewage sludge to create biogas which is converted into electricity. The Districts determined that it can be technically viable to expand the co-digestion project at JWPCP into a commercial-scale anaerobic digestion facility, if it is determined to be financially viable and after a consistent and clean food waste supply can be secured. As described above, a pilot organics collection program has begun sending additional waste to

the Districts facilities to determine the feasibility of expanding the amount of waste the facility processes.

The goal for the near future is to make significant advancement toward establishing commercial-scale CT facilities. Public Works will:

- Provide technical assistance to facilitate WM's CT project, including permitting assistance, further environmental review, and support for grant applications. The Department anticipates coordinating with Regional Planning and County Counsel as the project moves forward.
- Work with the Sanitation Districts to initiate an organic waste collection program, including creating outreach materials, training customers on items that meet the program criteria and proper placement of the food waste containers, and conducting site visits to ensure participation, with the goal of increasing the digestion of food waste in the County through anaerobic digestion.
- Continue to serve as an informational resource and catalyst for CT project development in the County.
- Finalize a CT White Paper that will provide policy makers with information regarding the net environmental benefits of managing residual solid waste using anaerobic digestion and gasification at an integrated CT facility instead of transporting it to a typical solid waste landfill. The White Paper is currently undergoing a final review by Public Works staff before being released. The paper will be an important tool in educating elected officials and the public regarding the benefits of CTs.

Initiative B: Organic Processing Infrastructure at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Evaluate opportunities to encourage the development of regional organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations.

Background:

Public Works is also developing a Regional/Countywide section of the organics plan to determine the current processing capacity of existing organics processing facilities, the capacity of planned processing facilities, and determining if this capacity is sufficient to meet the demands over a 15-year period. The organics plan will include a categorized list, (based on material type), of existing in and out of Los Angeles County organics processing facilities which receive waste from Los Angeles County. Facilities capable of expanding their operations will be noted, as well as areas potentially suitable for the locations of organics processing facilities. Regional maps will be prepared to show: (1) food waste processing facilities, (2) green waste processing facilities, and (3) mixed waste processing facilities. Facility operators will be surveyed to determine the existing services offered, and the challenges they have or foresee. A GAP analysis will determine if the County's 15-year needs are being met with existing and proposed capacities. If there is a shortage in capacity, plans can be developed to mitigate the shortage. Additionally, markets for compost and other organic residuals will be identified, along with an analysis of options for mechanisms those jurisdictions may implement to ensure that commercial organic waste is collected and recycled in the most efficient and economical way.

Lastly, the plan will evaluate barriers to the development or expansion of facilities and options for overcoming those barriers. Some of these barriers will require the assistance of State or federal agencies.

Accomplishments and Next Milestones for the Next Annual Reporting Period

Public Works has begun surveying organics processing facilities. A consultant has been secured and will perform the market and options analysis. A projected completion date for the organics plan is December 2016.

Additionally, Public Works initiated a partnership with County Sanitation Districts (Districts) for a commercial organics collection pilot project. Public Works and the Districts are working with waste haulers to develop a pilot program for collecting food waste from the County's Firestone Garbage Disposal District. The pilot collection program will deliver food waste to the Puente Hills Materials Recovery Facility and may be used to expand the District's co-digestion operation in Carson, CA if commercially viable.

Initiative C: Local Green Business & Market Development at a Regional/Countywide level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Work with partner cities in the County Recycling Market Development Zone (RMDZ) to encourage new green businesses and remanufacturing facilities to locate in Los Angeles County.
- ❖ Continue to seek opportunities to expand the RMDZ to include additional interested cities in Los Angeles County.

Background

The RMDZ program was designated in 1994 to provide business assistance to companies which manufacturer a product using recycling-content or process materials for recycling. To qualify for assistance, the company must be located within the RMDZ. Currently, County RMDZ consists of the unincorporated County areas and nineteen member cities: Azusa, Baldwin Park, Burbank, Carson, Commerce, Compton, Covina, Culver City, El Monte, Glendale, Huntington Park, Inglewood, Monrovia, Palmdale, Santa Fe Springs, South Gate, Torrance, Vernon, and Whittier. The program provides marketing assistance and/or financial assistance to qualifying companies. The financial assistance consists of a low-interest loan program which may provide two million dollars in funding to an eligible business located in the RMDZ for marketing or purchasing of equipment.

Accomplishments and Milestones for the Next Annual Reporting Period

From October 2014 to October 2015, County RMDZ met with six companies to discuss possible business assistance. One of the companies, a manufacturer of cardboard boxes from recycled paper, applied for a loan in order to purchase equipment. The loan in the amount of \$2 million was approved in September 2015. In addition to purchasing new equipment, the company is also hiring additional staff.

In October 2014, County RMDZ attended a public outreach event in the City of Vernon. The event was geared towards local businesses and provided County RMDZ an opportunity meet local companies and let them know about the program. Given the need to make businesses aware of the program, marketing will be a primary focus this coming year.

Initiative E: Emergency Management/Debris Management Plan at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Update County's Debris Management Plan to maximize diversion of materials following emergencies and disasters

Background

Public Works is developing a Mass Debris Management Plan (MDMP) to identify roles and mechanisms to collect, stockpile, and recycle debris, to the extent feasible following an emergency or disaster. It also ensures that the removal process for the debris is conducted in an efficient, economical, and environmentally beneficial manner while considering the safety of the public and personnel. The MDMP will be consistent with the existing policies and guidance provided by the County, State, and federal Emergency Management Agencies for removal and management of disaster related debris.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works began preparations of the MDMP, which is currently being developed by a consultant and will serve as a resource guide for the County and its 88 Cities to establish a collaborative and coordinated mass debris management structure during a major disaster event that impacts Los Angeles County.

Strategy 4: Outreach and Education

Initiative A: Communication Action Plan at a Regional/Countywide Level:

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Brand the campaign slogan (e.g. "Don't Waste Your Waste") and encourage cities to adopt and include in their websites as a consistent slogan.
- ❖ Establish partnership to build on and promote other sustainability programs, and partner with jurisdictions or agencies, as appropriate, to leverage resources and amplify the message of sustainability.

Background

Extensive research was conducted before a tagline/slogan was selected including examining the various phrases that people identify with throughout Los Angeles County and what other agencies and jurisdictions throughout the country are calling their version of the Roadmap efforts.

For example, in Los Angeles County we have few terms/phrases that people identify with:

- CleanLA
- Green LA County
- Roadmap to a Sustainable Waste Management Future
- A trash solution for a green evolution

Examples of what other jurisdictions are using include:

- LA City Sanitation: Counting Down to Zero Waste Plan

- Colorado: Zero Waste - Envisioning a Zero Waste Boulder
- Hawaii: Zero Waste
- Maryland: Zero Waste - Smart, Green, & Growing
- Austin Resource Recovery: Zero Waste by 2040
- City of Leduc: Growing a clean, green and healthy Leduc
- San Francisco: Sending nothing to landfill is a foreseeable future
- King County, WA: Get in the loop, buy recycled and It's easy being green
- Environmental Protection Agency: Waste Wise and Conserving Resources, Preventing Waste
- Waste Management: THINKING GREEN, GO #Greenin15, and Recycle Often. Recycle Right.

Accomplishments and Milestones for the Next Annual Reporting Period

During the development of the tagline/slogan, over 50 variations of phrases were crafted. Below is a list of the top four branding/tagline ideas determined during the brainstorming discussion.

- Roadmap to a Sustainable LA County
- Roadmap to a Greener LA (County)
- Sustainable is Attainable
- Roadmap to a Waste Free Future

After further discussions with the Working Group, the final determination for the Slogan/Tagline was:

Sustainable is Attainable: Roadmap to a Waste Free Future

After determining the tagline/slogan, 20 logo design concepts were created and surveyed by the Roadmap Working Group, Implementation Subcommittees, and others outside the County family. In all 70 people took the survey and based on the narrowed down results, the final logo was developed and is included in the cover of this report.

We will continue to seek partnerships to further build on and promote the message of sustainability. Through the Arts Commission we have been introduced to the Land Art Generator Initiative (LAGI), which focuses on the design and construction of public art installations that have the added benefit of clean energy generation. They present the renewable energy power plant as public artwork that enhances the environment, increases livability, provides a venue for learning and stimulates local economic development. Education and outreach is a core component in promoting and demonstrating the use of renewable energy and innovative design. By working closely with the Arts Commission and LAGI we will seek to find opportunities to incorporate art installations that uniquely combine aesthetics and clean energy generation in their design and construction in future projects. The artwork will serve to inspire and educate.

County Operations

Strategy 1: Quality Programs and Services

Initiative C: Make Sustainability Easy and Discourage "Trashing" at County Facilities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Expand the County Recycling Coordinator program and develop standardized reuse and recycling processes.

Background

Since the inception of the County Departmental Recycling program (CDRP) in 1990 the Board of Supervisors has instituted a number of policies related to County purchasing practices. These policies included requirements for purchasing recycled-content and remanufactured products. In 2007, ISD established the “Purchase of Environmentally Preferable Products (Green Purchasing)” Policy, which established objectives for the purchase of products that conserve natural resources, minimize environmental impacts, eliminate toxics, and reduce materials sent to landfills.

Under this Purchasing Policy, easy to adopt purchasing categories, (e.g., paper, cleaning supplies), were implemented and a pricing advantage for green products was put in place. The County maintains central purchasing agreements with a catalogue of environmentally friendly and energy efficient products; existing databases were modified for the easy identification of green products.

The expiration of other service contracts provides a similar opportunity for sustainability improvements. The CEO is currently rebidding its cafeteria contract and has added requirements to develop a sustainability plan which includes food waste reduction and recycling programs for the cafeteria. These types of plans can be included in other contracts that involve waste generation or disposal such as landscaping contracts. By including recycling and organics management requirements in these contracts the County will ensure compliance with State law and establish the measuring and reporting requirements needed to track progress toward achieving the goals of the Roadmap.

- ISD’s waste collection contracts service over 600 County facilities.
- The current contracts are serviced by 3 waste haulers.
- The current contracts do not require waste haulers to report on tonnages collected or types and amounts of material recycled.

Accomplishments and Milestones for the Next Annual Reporting Period

In addition to managing purchasing contracts for County departments, ISD also manages the waste collection contracts for County departments. The initial term for these contracts has expired and the final two year extension will extend the existing contract from 2016 to 2018. With the contract approaching renewal, it is a good time to re-evaluate the scope of work and incorporate new reporting and recycling requirements which will facilitate compliance with the States mandatory recycling laws and help achieve the diversion targets established in the Roadmap. Public Works is currently working with ISD to evaluate the existing waste hauling contracts and determine the appropriate method for soliciting a new waste hauling contract which will meet the recycling and waste disposal needs of all County departments.

One of the goals for the new hauling contracts is to require reporting of tonnages disposed and materials recycled from County facilities. This will facilitate the establishment of benchmarks for both disposal and recycling and help to measure the County’s progress in achieving the diversion goals established by the Roadmap. It will also allow departments to make more informed decisions about the level of waste collection service they require and help reduce costs for unnecessary services.

Strategy 2: Measuring Results

Initiative A: Waste Sector Assessment at County Facilities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Develop a methodology to conduct waste generation and disposal surveys at County Operations

Background

The State of California has recently passed two mandatory recycling laws which affect County operations. AB 341 and AB 1826 both require commercial entities including government buildings to sign up for recycling services for materials such as paper, cardboard, plastic, metal, and organics. The laws specify which facilities must comply based on the amount and type of waste they generate per week.

Accomplishments and Milestones for the Next Annual Reporting Period

To determine which County facilities are required to comply with these laws it is necessary to know which County facilities are generating large amounts of solid waste and organic waste. The most accurate way to determine this is through waste assessments at County facilities.

To facilitate this effort the Public Works has developed a Commercial and Institutional Recycling Program (CIRP) contract for performing waste studies of County operations and large venues. The purpose of CIRP is to help County facilities to achieve large-scale waste diversion and generally enhance the sustainability of their activities related to materials management. For example, the program would assist the County in developing source reduction policies, environmentally sustainable practices, and zero waste goals.

Measurement

The Pitchess Detention Center (PDC) is a 2,600 acre facility that self-hauls its waste due to the type of facility, its size, and various trash disposal sites:

- PDC disposes 2-3 tons of food waste per day or 14-21 tons per week.
- Pitchess Material Reclamation Center (PMRC) collects 2 tons per week to compost which is approximately 9.5% to 14% of the total waste generated at PDC. Staff continues to pursue opportunities to divert additional materials, and to the extent feasible, reclaim them in a way that benefits PDC operations.

Initiative B: Evaluate and Measure the Success of Existing Programs and Consider New Programs at County Facilities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Create a framework to monitor and measure the success of waste reduction programs targeted at County facilities.

Background:

The CDRP, established by the Board in 1990 instructed all County departments to develop and implement recycling programs with specific goals to be met, under the supervision of on-site managers or proprietors. This Board action also required the modification of County

procurement policy to emphasize the purchasing of recyclable and recycled-content paper products. As a result Departmental Recycling Coordinators (DRCs) were assigned at each department to implement recycling programs and the Public Works was assigned to oversee the overall program and train the DRCs on recycling and waste reduction policies/initiatives, and their implementation.

Over the years the program has been expanded to include more than just paper and now deals with a variety of materials including, electronics, toner cartridges, hazardous material, styrofoam, plastic bags, and beverage containers. From 2013 to 2014 over 2,000 tons of paper and 1,900 lbs. of beverage containers were recovered from County operations.

Accomplishments and Milestones for the Next Annual Reporting Period

To determine the effectiveness of these recycling programs and gauge each department's participation in recycling efforts the Working Group is developing a survey to be distributed to each department. This survey will provide feedback about current recycling efforts and determine the need for additional education and outreach to departments about existing County recycling policies. It will also identify opportunities to achieve additional waste diversion through new policies focused on materials not currently being recycled such as food waste and other materials.

Strategy 3: Facilities and Infrastructure

Initiative B: Organics Processing Infrastructure at County Facilities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Establish guidelines and enable County facilities that are large-quantity food waste generators to do their own composting where feasible.
 - Identify at least two micro-composter pilot project opportunities, including required funding, at County facilities that would foster interdepartmental collaboration and help meet the solid waste management needs of one or more large County departments.

Background:

Pilot projects at County facilities will be an important component of implementing the policies and programs described in the Roadmap. Testing new projects at a few facilities will allow for the development of performance guidelines and best management practices which can then be replicated at other departments.

Accomplishments and Milestones for the Next Annual Reporting Period

Two pilot projects have been identified so far, one at the Public Works headquarters facility and the other at PDC. The project at Public Works will be a pilot food waste reduction and recycling program which will be implemented in partnership with the onsite cafeteria. Food waste reduction methods, such as Lean Path or similar software that helps to track excess food purchases and waste, will be implemented in cafeteria operations to reduce the generation of food waste. In conjunction with these methods, Public Works installed vermiposting, (worm composting), bins to recycle the cafeteria's pre-consumer food waste onsite.

The second pilot project proposes to create a model for sustainability at the PDC, a jail facility in Castaic, California, which houses over 8,000 inmates. The Sheriff's Department and Public Works have partnered to establish a zero waste program that benefits both the inmates and public, while conserving resources and protecting the environment. A diversion program has been

started to recycle cardboard, metals, and plastics. However, leftover food remains the largest waste generated on-site which is hauled off and disposed in landfills. The project proposes to install an anaerobic in-vessel digester to compost the food waste generated onsite.

The PDC is located in a semi-rural area surrounded by farmland both on the premises and outside. Instead of trucking the waste to a landfill, the food waste could be composted to become a rich soil amendment that is beneficial for the growing of crops. If successful this pilot project could be expanded to receive food waste from other County departments and the surrounding unincorporated areas, reducing disposal costs and creating usable energy and products for the facility as well as the County's regional parks. Public Works is working with Alternative Resources, Inc. (ARI) to finalize an economic analysis for the three potential scenarios of this project. The first scenario is based on processing approximately 1,000 tons per year (tpy) of organic waste, (which includes food waste and green waste), from PDC. The other two scenarios estimate processing additional feedstock from external sources, in addition to PDC's organic waste.

- PDC Scenarios: In the first scenario, the facility would process 1,000 tpy of on-site organic waste, which includes food waste and green waste.
- The second scenario would have the facility processing a total of 10,000 tpy of feedstock, with 9,000 tpy originating from surrounding County of Los Angeles facilities.
- In the third scenario, the facility would operate at a commercial scale, processing a total of 40,000 tpy of feedstock, with 39,000 originating from regional sources. It is likely that further increasing the facility capacity above 40,000 tpy would provide greater economic feasibility.

Strategy 4: Outreach and Education

Initiative B: Leadership in Sustainability

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Work with County Departments to implement sustainable practices, where fiscally feasible, based on feedback from waste surveys.

Background

As previously discussed, each County Department is required to have a DRC to help implement sustainability practices at each County department. Through this program, Public Works educates and provides support to the DRCs on sustainability efforts.

Milestones for the Next Annual Reporting Period

A waste survey will be conducted. Subsequent to the feedback from the survey, DRC meetings will be scheduled to implement and promote sustainable practices at County departments including ways to improve recycling and increase diversion at County facilities. Through the new waste hauling contracts that ISD is currently working on, there will be increased reporting requirements which will allow Departments to better measure the success of these sustainable practices. A recognition and/or incentive program will be initiated based on the newly identified sustainable practices.

In addition, we will continue to work to connect the dots to help reduce waste. A great example of a successful connection is PDC and the Arts Commission. PDC is continuously searching for avenues to recycle as much as possible. The Arts Commission at the time was helping a local artist search for unwanted material to use for an art exhibition. By communicating the need and working together, we were able to connect both organizations and divert waste from going to the landfill.

RELEVANT SOLID WASTE MANAGEMENT STATUS REPORTS

The Board directed that the Roadmap to a Sustainable Waste Management Future Annual Report serve to consolidate other solid waste management status reports including the Conversion Technologies in Los Angeles County Six Month Status Update and the Status Report on Removal of Elsmere Canyon Landfill from the Los Angeles County Countywide Siting Element. These reports are included below:

Conversion Technologies Update

On August 20, 2015, Public Works submitted a semi-annual report to the Board on that included clear benchmarks for measuring progress towards establishing conversion technology projects within Los Angeles County. Conversion technologies are critical to reducing our reliance on landfills and recovering energy, fuels, and other products from waste, and the report notes that conversion technology facilities are being successfully developed. The report noted that significant progress has been made in the development of conversion technology projects in Los Angeles County.

Elsmere Canyon Landfill Status Report

On September 30, 2003, the Board instructed Public Works to take the necessary steps to remove Elsmere Canyon from the Los Angeles County Countywide Siting Element's list of future landfill sites and to report back every 60 days. Based on our August 23, 2010, status report to the Board, the reporting frequency was changed from every 60 days to semiannually. On October 21, 2014, the Board directed Public Works to consolidate the Status Report on the Removal of Elsmere Canyon Landfill from the Los Angeles County Countywide Siting Element, and submit it with the Roadmap to a Sustainable Waste Management Future Annual Report.

The Siting Element is a long-term solid waste planning and policy document that describes how the County and the cities within the County plan to manage the disposal of their solid waste for a 15-year planning period as required by AB 939. AB 939 also requires the Siting Element to establish goals and policies for the proper planning and siting of landfills, inert waste landfills, waste-to-energy facilities, and alternatives to landfill technologies, such as conversion technologies on a Countywide basis.

Since our last report dated August 21, 2014, Public Works has updated the Preliminary Draft Siting Element, which was previously reviewed, and considered by the Los Angeles County Solid Waste Management Committee/Integrated Waste Management Task Force (Task Force) in November, 2012. The document is currently being revised to update the base year of 2014, including disposal projections covering the planning period beginning 2014 through 2029, and to include the impacts of current legislations, such as mandatory commercial recycling (AB 341), diversion of organic waste from landfills through organics recycling programs (AB 1826), and prohibition on local disposal limits (AB 845) on the Countywide diversion and disposal quantities.

The next steps entail re-submitting the document to the Facility and Plan Review Subcommittee (FPRS) of the Task Force by October 2015, for their review. After consideration by the FPRS, the revised Preliminary Draft Siting Element will be reviewed and subsequently considered by the

Task Force. The revised Siting Element and its environmental documents will then undergo additional reviews by the public in compliance with statutory and regulatory requirements, including approvals by cities, the Board of Supervisors, and the California Department of Resources Recycling and Recovery (CalRecycle).

LIST OF ABBREVIATIONS

AB	Assembly Bill
CEO	Chief Executive Office
C&D	Construction and Debris
Cal Recycle	California Department of Resources and Recovery
CDRP	County Department Recycling Program
CIRP	Commercial and Institutional Recycling Program (CIRP)
CIRP	Commercial and Institutional Recycling Program
CT	Conversion Technology
DPW	Department of Public Works
DRCs	Department Recycling Coordinators
EPR	Extended Producer Responsibility
FPRS	Facility and Plan Review Subcommittee
HHW	Household Hazardous Waste
JWPCP	Joint Water Pollution Control Plant
LACoMAX	Los Angeles County Materials and Exchange program
LAGI	Land Art Generator Initiative
MDMP	Mass Debris Management Plan
MRF	Materials Recovery Facility
PDC	Pitchess Detention Center
PMRC	Pitchess Material Reclamation Center
RFP	Request for Proposal
RMDZ	Recycling Market Development Zone
Roadmap	Roadmap to a Sustainable Waste Management Future
tpd	tons per day
tpy	tons per year
U.S. EPA	United States Environmental Protection Agency
ISD	Internal Services Department



GAIL FARBER, Director

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

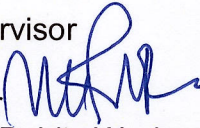
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IN REPLY PLEASE

REFER TO FILE: **EP-4**
664054

October 25, 2016

TO: Each Supervisor
FROM: Gail Farber 
Director of Public Works

**BOARD MEETING OF OCTOBER 21, 2014, AGENDA ITEM NO. 34
ROADMAP TO A SUSTAINABLE WASTE MANAGEMENT FUTURE
ANNUAL REPORT: OCTOBER 2015 THROUGH OCTOBER 2016**

On October 21, 2014, the Board of Supervisors adopted the Roadmap to a Sustainable Waste Management Future. The Roadmap identifies three focus areas (County Unincorporated Communities, Regional/Countywide, and County Operations) and lays out the general framework for the strategies and initiatives the County can implement to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed of at landfills.

The Board directed the Department of Public Works to submit annual reports on the progress of the implementation of the Roadmap. Attached is the second Annual Report in response to this Board action for the period of October 2015 through October 2016.

If you have any questions regarding this report, please contact me or your staff may contact Shari Afshari at (626) 458-4008 or safshari@dpw.lacounty.gov.

VO:jl

P:\Sec\Roadmap Report Oct. 2015 - Oct.2016 (Memo).docx

Attach.

cc: Chief Executive Office (Rochelle Goff)
County Counsel
Executive Office
All County Departments

2016

Report to the Board

Roadmap to a Sustainable Waste Management Future



October 25, 2016

Roadmap Participant List

Prepared in coordination with the Roadmap Working Group, which includes the following County Departments and Special Districts:

Chief Executive Office	Public Works
Health Services	Regional Planning
Internal Services	Sanitation Districts of Los Angeles County
Office of Sustainability	Sheriff
Public Health	

Other Roadmap participating County Departments:

Agricultural Commissioner/ Weights & Measures	Fire
Alternate Public Defender	Human Resources
Animal Care and Control	Medical Examiner – Coroner
Arts Commission	Mental Health
Auditor-Controller	Military and Veterans Affairs
Beaches and Harbors	Parks and Recreation
Board of Supervisors	Probation
County Counsel	Public Social Services
District Attorney	Registrar-Recorder/County Clerk
	Treasurer and Tax Collector

Participating Cities:

City of Burbank
City of Glendale
City of Long Beach
City of Palmdale

Other Participants:

Algalita
Seed Consulting Group

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¹ The Table of Contents reflects only those initiatives with progress this reporting year. It is not inclusive of all of the initiatives in the Roadmap.

EXECUTIVE SUMMARY

On October 21, 2014, the Los Angeles County (County) Board of Supervisors (Board) adopted the Roadmap to a Sustainable Waste Management Future (Roadmap). This second Annual Report on the Roadmap summarizes the activities, initiatives, and programs implemented by the Department of Public Works (Public Works) in coordination with the Roadmap Interdepartmental Working Group (Working Group) for the 12-month period ending on October 21, 2016.

The Roadmap identified priority issues, and the strategies and initiatives to address them within three Focus Areas: (1) County Unincorporated Communities, (2) Regional/Countywide, and (3) County Operations. The priority issues are described below and the progress on the strategies and initiatives within each Focus Area is discussed in detail in the body of the report.

PRIORITY ISSUES

This reporting year, progress was made on all 12 priority issues identified in the Roadmap, including Resource Recovery Centers, which was not discussed in the first Annual Report. The following is a highlighted summary of the progress to date:



Organic Waste Management: Organic waste is the largest component of the waste stream currently being disposed. As such, management of organic waste is addressed across all Roadmap focus areas and strategies. A comprehensive Organics Management Plan describing the County's role and efforts to comply with Assembly Bill 1826 (AB 1826, 2014 Mandatory Commercial Organics Recycling) has been developed. Milestones within the plan include identifying and educating businesses and County facilities that are within the first tier of compliance for organics recycling under AB 1826, conducting pilot organic waste collection projects, and conducting an analysis on the need for additional processing capacity. The comprehensive plan addresses on-site coordination (County Operations), collection (County Unincorporated Communities), and the end-destination (Regional/Countywide) for organics management.



Conversion Technologies: Public Works continued to facilitate the development of Conversion Technology (CT) projects in the County by providing technical assistance, educating stakeholders, and working to remove regulatory barriers. CTs are critical to reducing reliance on landfills and recovering energy, fuels, and other products from waste. Public Works has been providing semi-annual status reports to the Board on the development of CT facilities that would serve Los Angeles County. Progress has been made on the CT projects at the Joint Water Pollution Control Plant, Perris Materials Recovery Facility, Lancaster Landfill, and Pitchess Detention Center. These four projects are discussed further under the Regional/Countywide section of the report.

Public Works hosted the 2016 Southern California Conversion Technology Conference (SCCTC) on July 29, 2016. SCCTC provided local government officials, the waste hauling industry, environmental organizations, technology vendors, and the financial industry a valuable opportunity to exchange information and learn about all aspects of CTs and ways to spur their development in California. Public Works presented the results of a Comparative Greenhouse Gas (GHG) Emissions Analysis, which demonstrates the GHG emissions reduction benefits of an integrated CT facility versus landfill disposal.

Public Works also established numerical milestones to measure progress in implementing the CT program starting with the current in-County CT capacity of 65 tons per day (tpd) and continuously increasing the capacity to reach 3,000 tpd of conversion capacity by 2035. The County has met the first milestone and is on track to achieve the next milestone of 200 tpd in-County waste conversion capacity by 2020. All future CT updates to the Board will be provided within the Roadmap annual report.



Product Stewardship/Extended Producer Responsibility: Extended Producer Responsibility (EPR) remains a high priority. A draft ordinance was presented to the Board for a Pharmaceutical and Sharps EPR Program; however the Board directed a voluntary Industry-led program consisting of public education and outreach and quarterly collection events for the unincorporated communities of the County. Industry submitted a revised proposal on August 12, 2016. However, following review by the Department of Public Health and the County EPR Working Group, the proposal was not approved and the Industry was provided feedback in order to strengthen its proposal to meet the Board's intention. As of September 16, 2016, the Industry informed the Board members that they plan to launch the MyOldMeds campaign in October 2016. A report is due to the Board on November 1, 2016, from the Working Group.



Household Hazardous Waste and Electronic Waste: Public Works reevaluated the Household Hazardous Waste and Electronic Waste (HHW/E-Waste) Program schedule and collection data to identify ways in which customer service and efficiency could be enhanced. As a result, Public Works will add two more collection events in 2017 and will revise the 2017 event schedule to offer convenient opportunities for residents to properly dispose of their HHW/E-Waste throughout the year. By the end of 2016, handheld electronic devices will replace the paper surveys currently being used to gather information during HHW/E-Waste collection events.



Emergency Management and Regional Debris Management Planning: Completed a new Countywide Operational Area Mass Debris Management Plan (OA MDMP), which will be shared with all 88 cities within the County. The OA MDMP will serve as a resource guide to establish a collaborative and coordinated mass debris management structure during a major emergency or disaster and maximize the diversion of material. Work has also begun on an Unincorporated Area Mass Debris Management Plan specific to the Unincorporated County Communities. County agencies involved in this effort include Public Works, the Chief Executive Office (CEO)/Office of Emergency Management (OEM), Public Health, the Sheriff's Department (LASD), Fire Department, and the County Sanitation Districts.



Waste Prevention and Source Reduction: Public Works increased efforts to promote the Los Angeles County Materials Exchange (LACoMAX) program. This is a free service that helps residents, businesses, and organizations find an alternative to the disposal of unwanted materials at landfills. Public Works, in collaboration with the Internal Services Department (ISD), is developing a proposal to update the County's Surplus Policy and incorporate LACoMAX as an additional diversion option prior to disposing materials at landfills. In addition, Public Health, in collaboration with a team of County Departments and other stakeholders, is working on the Los Angeles County Food Recovery Initiative, a food donation program aimed at preventing food waste from occurring, promoting safe food donation, and promoting safe food waste recycling.



Construction and Demolition Debris: Public Works drafted revisions to the County's Construction & Demolition (C&D) Debris Recycling Ordinance to increase the required minimum recycling rate from 50 percent to 70 percent. Public Works is currently preparing to release the draft Ordinance for stakeholder review and comment. Based on the stakeholder feedback, the draft Ordinance will be revised and the proposed Ordinance will be submitted for Board consideration in summer 2017.



Resource Recovery Centers: A portion of materials disposed are from self-haul customers at landfills and transfer stations. Resource recovery centers would allow materials to be dropped off for donation or buyback and provide a place to co-locate synergistic diversion-related activities. Discussions have begun with stakeholders such as cities on options to develop resource recovery centers in the County to address the need and aid in diverting useful materials from going to the landfill.



Assessment and Evaluation: During this reporting year, Public Works conducted waste characterization studies at three large County facilities. These include LASD's Twin Towers, the Department of Health Services Headquarters, and Public Works Headquarters. In January 2016, a new Commercial and Industrial Recycling Program (CIRP) contract was executed to provide the resources to help businesses and institutions, such as County facilities achieve large-scale waste diversion and recycling, as well as implement environmentally sustainable practices and zero-waste programs. The CIRP contractor has conducted site visits at the Los Angeles County Museum of Art and LAC+USC Medical Center. Additional site visits will be scheduled throughout the year for County facilities.

Separate from the CIRP site visits and the waste characterization studies conducted at County facilities, a contract is being finalized for a comprehensive waste characterization study for all of Unincorporated Los Angeles County. The study, which is expected to begin in 2017, will help determine where best to target future waste reduction efforts outlined in the Roadmap.



Facilitating Sustainable Practices: The Working Group discussed and is currently evaluating and implementing several initiatives to facilitate waste reduction and recycling and further increase diversion rates. These include alternate trash collection methods and source reduction practices that can be implemented with ease and with minimal startup cost. These practices include: hydration stations to allow for refilling reusable water bottles; community libraries to share unused books and other reading material, similar to the one featured at Grand Park; and encouraging the use of reusable utensils and drinkware through a "Bring Your Own" campaign currently in development.



Local Green Business and Market Development: Public Works continued to serve as the Los Angeles County Recycling Market Development Zone (RMDZ) Program Administrator. The RMDZ serves the County unincorporated areas and 19 cities. The RMDZ program helped connect businesses that manufacture products using recycled-content feedstock, or process materials for recycling, with financial and marketing assistance. A joint outreach event with the City of Los Angeles RMDZ to educate manufacturing businesses about the RMDZ Program and other resources available to them is being discussed. Public Works is currently developing a proposal for a Green Business Recognition Program to encourage businesses to implement sustainable practices.



Outreach and Education: Tailored and effective outreach and education is key to driving behavior change. The Working Group has developed educational materials to inform County staff and the general public on what they can do to be more sustainable. As initiatives in the three Focus Areas are developed, additional communications and stakeholder engagement plans will be developed to address the specific educational and outreach needs of each initiative. The goal is to communicate effectively to the appropriate stakeholders and target audiences.

INTRODUCTION/BACKGROUND

On October 21, 2014, the Los Angeles County (County) Board of Supervisors (Board) adopted the Roadmap to a Sustainable Waste Management Future (Roadmap). The Roadmap identifies three Focus Areas (County Unincorporated Communities, Regional/Countywide, and County Operations) and lays out the general framework for the strategies and initiatives the County can implement to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed at landfills. The Roadmap established disposal reduction targets to divert 80 percent of waste from landfill disposal by 2025, 90 percent by 2035, and 95+ percent by 2045.

The Roadmap identified the following four broad strategies for the three Focus Areas: (1) Programs and Services, (2) Measuring Results, (3) Facilities and Infrastructure, and (4) Outreach and Education.

The County has been successful in further diverting solid waste from landfills. The County Unincorporated Communities (CUCs) per capita disposal rate declined from 3.92 pounds per person per day (ppd) in 2014 to 3.78 ppd (74 percent diversion) in 2015. Therefore, the CUCs remain in compliance with the State's 50 percent waste diversion mandate and per capita disposal target of 7.4 ppd.

The following report expands on the Roadmap's progress and accomplishments in each Focus Area in its second year of implementation.

PROGRESS OF INITIATIVES BY FOCUS AREA

The Roadmap Interdepartmental Working Group (Working Group) continued to work on numerous initiatives since the last report. The following provides the progress and next steps for those initiatives advanced by the Working Group during this reporting period including some newly added initiatives to the Roadmap effort.

Detailed descriptions of the priority issues and background information on initiatives discussed in last year's annual report can be reviewed by referencing the Roadmap document and the first annual report to the Board at <http://dpw.lacounty.gov/epd/Roadmap/index.cfm>.

County Unincorporated Communities

Strategy 1: Programs and Services

Initiative A: Institutionalize Waste Prevention and Source Reduction in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Explore and, if feasible, develop and implement more aggressive reuse programs.
 - Promote reuse and repair for residents, businesses, and nonprofits with repair workshops (Repair Café and iFixit models); web-based directories for sharing reusable materials, such as Los Angeles County Materials Exchange

Program (LACoMAX), the County's free materials exchange network; thrift stores and repair shops; reuse depots like East Bay Depot for Creative Reuse; and/or Tool Lending Libraries.

Accomplishments and Milestones for the Next Annual Reporting Period

To generate traffic to the LACoMAX website, various forms of advertising have been utilized, such as flyers, attending Earth Day events, and tweets with information on current listings from the website. To increase awareness of the program we will continue to attend and/or provide informational flyers at community events in the unincorporated areas as well as include information in newsletters provided to residents. We will also continue to encourage interdepartmental collaboration, such as asking County Departments to include the LACoMAX website on their Department's website and intranet pages.

A nexus between the LACoMAX program and the Countywide Surplus Property Disposal program (Surplus Program) has been identified. Both programs facilitate diversion of materials from going to landfills. Public Works in collaboration with Internal Services Department (ISD) is drafting a Board Letter to revise the Surplus Program Policy to incorporate LACoMAX as the last step in the process to allow the general public to take the materials the County cannot donate or sell through the Surplus Program. This would allow others such as artists and do-it-yourselfers to access materials that may have been deemed trash to create artwork or make repairs thereby diverting materials from going to landfills.

Initiative B: Advocate for Extended Producer and Manufacturer Responsibility in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Explore the feasibility of establishing a County Extended Producer Responsibility (EPR) Ordinance for materials, such as pharmaceuticals and needles to ensure that collected items are properly managed in accordance with Federal, State, and local laws using environmentally sound practices.
- ❖ Support voluntary take-back initiatives. Encourage and incentivize businesses and institutions to take back products and packaging they sell and are sold by others.

Accomplishments and Milestones for the Next Annual Reporting Period

In June 2015, the Board adopted a motion directing the Department of Public Works, in coordination with the Chief Executive Office (CEO), County Counsel, Sheriff's Department (LASD), Department of Health Services, Mental Health, Department of Public Health, and the County Sanitation Districts, collaboratively, the EPR Working Group to investigate whether an EPR Ordinance would be feasible, similar to what other counties in the State have passed. In July 2015, the Working Group submitted a report that concluded an Ordinance was indeed feasible. In August 2015, the Board directed the CEO in collaboration with the County's Sustainability Council and the EPR Working Group to work with stakeholders to develop an Ordinance for their consideration. After several stakeholder meetings and a draft Ordinance, which was released for public review, the EPR Working Group presented the draft Ordinance for the Board's consideration in June 2016. The draft Ordinance was not adopted by the Board; however, the Board passed a motion which ultimately directed the EPR Working Group to work with the manufacturers of pharmaceuticals and sharps to develop a voluntary Industry-led program to (1) conduct quarterly collection events in 10 unincorporated communities, (2) implement a public education and outreach campaign, and (3) establish benchmarks to determine the success of the events and public education campaign. In August 2016, the EPR Working Group submitted a status update report to the Board.

In response, the Industry submitted an initial proposal on July 20, 2016. The EPR Working Group met with Industry representatives on July 26, 2016, for an initial review of the proposal submitted by the Industry and followed-up with an e-mail that provided a re-cap of the meeting. The Working Group provided key revisions necessary to address the intent of the June 14, 2016, Board Motion so that the Industry could submit revised plans to the Working Group for evaluation. Additionally, the Industry was provided with a list, developed by Health Services and Public Health, of the 10 unincorporated communities in which to conduct the take-back events.

The Industry submitted a revised proposal that included three component plans on August 22, 2016, which was evaluated by the Working Group. The plans were not approved and the Industry was provided with a formal letter from Health Services dated August 26, 2016, which contained recommendations for the Industry to address deficiencies in the plans. On September 16, 2016, the Industry informed the Board that they plan to launch the MyOldMeds campaign in October 2016. A report back from the EPR Working Group on these efforts is due to the Board on November 1, 2016.

Initiative C: Make Sustainability Easy and Discourage “Trashing” in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Evaluate and implement, if feasible, alternative trash collection methods such as: reducing trash collection frequency, adjusting the size of bins, implementing a volume or weight-based trash collection system (pay as you throw), collecting additional organics in the green waste bin, and/or a 2-bin collection system (wet and dry) processed at a Materials Recovery Facility (MRF) for separation and recovery.

Accomplishments and Milestones for the Next Annual Reporting Period

An Organics Options Analysis has been completed, which provides guidance about what changes to the current system may be needed to comply with Assembly Bill (AB) 1826 and the feasibility of those changes. Some of the options identified are being further considered by Public Works with input from the Working Group. One such option is to make changes to existing contract language to include requirements for organics recycling services. This language change is currently being developed and is expected to be implemented in upcoming waste hauling contracts.

Initiative D: Recover Organics, including Food Waste, to the Highest and Best Uses in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Collaborate with waste haulers to develop organics collection and diversion programs in County Unincorporated Communities, where feasible.
- ❖ Explore and implement, if feasible, Food Donation Recovery Outreach Program for unused edibles in County Unincorporated Communities.

Accomplishments and Milestones for the Next Annual Reporting Period

The identification and education of businesses meeting the threshold in unincorporated areas began in February 2015 resulting in the collection of initial data:

- Waste haulers operating under the Commercial Franchise service more than 10,000 accounts, providing trash collection for businesses and multifamily units in unincorporated County areas.

- Public Works visited over 1,300 accounts with the potential to generate a large amount of organic waste and identified 435 that need to comply with the first two phases of AB 1826, which apply to businesses that generate 4 and 8 cubic yards or more of organic waste per week, respectively.

The Organics Management Plan for CUCs describes the County's role and efforts to comply with AB 1826. Public Works has been working through the Smart Business Recycling Program and in partnership with Public Health to educate organics generating businesses on organics recycling requirements and options. In the coming year, follow-up visits will be conducted at these businesses to further assist them in their recycling efforts. The County Unincorporated Organics Management Plan also discusses the potential barriers and potential solutions to barriers involved with organic recycling.

Food Donation Recovery Outreach Program - Public Health, in coordination with Public Works and other stakeholders, has begun work on the Los Angeles County Food Recovery Initiative (LACFRI). Goals for the program include preventing food waste from occurring, promoting safe food donation, and promoting safe food waste recycling. The LACFRI Working Group is currently developing outreach materials to help increase awareness of the food waste problem and provide guidance on proper food handling, donation, and recycling.

Collection of Food Waste Pilot Project - As of July 2016, 56 businesses have been participating in the Garbage Disposal District (GDD) food waste collection pilot program and have diverted over 171 tons of organics. As part of the pilot, Republic Services is delivering the organic material to the Puente Hills MRF, operated by the County Sanitation Districts. The material is then sent to a third-party waste management company who processes the material. The processed material is either sent to the company's anaerobic digestion facility or sent to the Sanitation Districts' Waste Water Treatment Plant in Carson for co-digestion with sewage sludge depending on which company is doing the processing. In April 2016, a pilot organics collection program was also started with several County Commercial Franchise haulers. This pilot project is scheduled to run for 12 months and to date has collected 29 tons of organic waste, which is delivered to Puente Hills.

Initiative E: Maximize Diversion of Construction and Demolition Debris in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Revise the Construction & Demolition (C&D) Debris Recycling Ordinance.

Accomplishments and Milestones for the Next Annual Reporting Period

The revised C&D Ordinance is 90 percent complete. The proposed revisions include (1) raising the minimum requirement to 70 percent of mixed C&D material to be recycled or reused, (2) requiring a security deposit as an incentive for businesses to comply with the recycling requirement, and (3) ensuring County projects comply with the provisions of the Ordinance. The most recent California Standards Building Code requires 65 percent diversion for construction projects and the most recent County Green Building Standards Code requires 65 percent diversion for construction projects. Additional revisions are currently being reviewed by County Counsel. Meetings with public stakeholders such as land developers, construction companies, demolition companies, C&D debris recycling facilities, and waste haulers will be conducted to obtain input prior to finalizing the Ordinance. Public Works will subsequently submit the revised C&D Ordinance to the Board for its consideration in summer 2017.

The following data has been gathered from July 1, 2005, to June 30, 2015, on C&D plans:

- 4,993 C&D plans approved
- 3,024 of the 4,993 C&D approved plans submitted Final Compliance Reports
 - 1,969 C&D projects did not submit Final Compliance Reports
- 135 C&D projects were issued administrative monetary penalties
 - 61 of the 135 C&D projects paid the administrative monetary penalties
 - Penalties are up from last year due to the summation from 2005 to 2015, compared to last year which summed up 2005 to 2014

During calendar year 2015, for the unincorporated County areas, completed projects generated 75,388 tons of C&D debris and recycled 65,743 tons of C&D debris, for an overall recycling rate of 87 percent. This number combines mixed and inert C&D debris. In addition, projects generated 85,808 tons of soil and recycled the same amount. The recycling rate from C&D increased by 6 percent compared to a year ago.

Strategy 2: Measuring Results

Initiative A: Waste Sector Assessment in the County Unincorporated Communities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Conduct an assessment of waste sectors that are sending waste to disposal facilities
 - Conduct regular waste characterization studies for entire County Unincorporated Communities (all sectors) at 5- to 10-year intervals to determine material types being disposed which could ultimately be recycled. Include MRFs and transfer stations, as well as self-haul, scavenging, and recycling drop-off centers to determine accurate generation and diversion rates.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works refined the Request for Proposals (RFP) and is in the process of soliciting a contract for a waste characterization study of the CUCs, which is projected to begin in 2017 as discussed on page 4. Public Works will examine the solid waste composition and generation rates, and the highest and best use alternatives for diverting the major components of the waste stream to achieve the long-term disposal targets. A large-scale study may be needed every 5 years, with smaller individual assessments on a more frequent basis, including waste surveys at County facilities.

When data becomes available from the waste characterization study it will be used to assess the success of existing programs, evaluating the feasibility of implementing new programs in the CUCs, and assessing how these new programs would assist in achieving the County's overarching goals. Each new program or policy recommended through the Roadmap could be tailored to location and customer and coupled with clear, meaningful, and achievable performance measures. With an ongoing baseline of disposal and diversion measurements, we can assess whether different programs and policies are effective in achieving the long-term disposal reduction targets. The County may need multiple solutions tailored to specific situations. Existing County programs continuously need to be evaluated for effectiveness, cost, and determination of whether they should be maintained at their current resource expenditure level, expanded and/or modified, or eliminated. In the past year, Public Works evaluated the Countywide Battery Recycling Program where containers are available for residents to properly dispose of household batteries at County Public Libraries. As a result of this evaluation, the program was expanded from 16 libraries to 21 libraries and containers were redesigned to provide more capacity and reduce the frequency of collection, which reduces program costs.

Strategy 3: Facilities and Infrastructure

Initiative B: Organics Processing Infrastructure in the County Unincorporated Communities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Evaluate options to encourage the development of local organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations, to assist businesses in the CUCs with AB 1826 compliance.

Accomplishments and Milestones for the Next Annual Reporting Period

On October 6, 2015, the Board adopted the updated General Plan for the County, which places additional emphasis on equity and sustainability, including implementation programs for enabling critical infrastructure, such as organics diversion facilities. The Department of Regional Planning is in the process of developing a new recycling and ordinance in order to update obsolete definitions and streamline the permitting process for recycling facilities of all types, including organics recycling facilities. The Ordinance will encourage recycling and solid waste facilities in a manner that protects public health and safety, helps achieve the County's sustainability and climate goals, and promotes local management of solid waste. As mentioned, AB 1826 will create the need for additional organic waste separation and collection which in turn will necessitate the development of additional organics processing infrastructure. The Recycling and Solid Waste Ordinance is an important step in ensuring that the necessary processing infrastructure can be developed in an environmentally sustainable and equitable manner. Regional Planning will begin conducting broader outreach in early 2017 and anticipates adoption of the Ordinance and its Environmental Impact Report in 2018.

Strategy 4: Outreach and Education

Initiative A: Communication Action Plan for County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Develop an outline for a unique communication plan, focused at the unincorporated community level based on demographics, resources, and commercial and industrial businesses in the targeted areas.
- ❖ Newly Added Roadmap Element: Develop a beverage container recycling outreach and education plan for multifamily residences in the County Unincorporated Communities.

Background

The existing County Beverage Container Recycling (BCR) Program consists of extensive education and outreach activities, including community engagement that encourages the 1 million County residents and businesses of the CUCs to properly manage and recycle all beverage containers. The program has conducted numerous public outreach and education campaigns comprised of local events, informational meetings, and various media outlets.

Recycling receptacles in a variety of sizes have also been purchased for distribution to local schools, multifamily complexes, and business within the CUC. The Working Group is proposing to enhance the existing BCR program by continuing education and outreach media campaigns, increasing recycling opportunities at local schools and multifamily dwellings located in the CUC.

Accomplishments and Milestones for the Next Annual Reporting Period

The Working Group was effective in facilitating a number of discussions that improved communications related to expanding education and outreach efforts to customers within the CUCs. The main goal is to educate CUC residents and businesses about waste reduction and recycling. Efforts to achieve this goal include focusing outreach on food waste reduction/prevention and sustainability, such as buying less, throwing less away, understanding food expiration dates; coordinating with other County Departments to disseminate recycling information to CUC residents and businesses; and coordinating with the business license application process to provide recycling information to business owners.

In addition, Public Works will implement a beverage container recycling outreach program for multifamily residences in the unincorporated areas of the County and at County facilities. Program goals and objectives will be developed after conducting meetings with waste haulers and recyclers to determine the type of service that would work best for the multifamily and County facilities for this program.

Regional/Countywide

Strategy 1: Programs and Services

Initiative A: Institutionalize Waste Prevention and Source Reduction at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Evaluate with local municipalities and other public agencies opportunities to implement policies, such as EPR Ordinances.

Accomplishments and Milestones for the Next Annual Reporting Period

In addition to what was previously discussed in the CUC section, on June 14, 2016, the Board also directed the EPR Working Group to:

- Work with Walgreens in order to assess the performance of Walgreens' 24-hour kiosks located throughout the County.
- Report back on any established benchmarks and best practices that may have been developed as a result of their take-back operation within Walgreens' pharmacies.

The Working Group contacted Walgreens to obtain information on their 24-hour kiosks to assess the performance of its program. An update on the Walgreen's assessment will be provided separately to the Board by November 1, 2016.

Initiative C: Recover Organics, including Food Waste, to the Highest and Best Uses at a Regional/Countywide Level

The Working Group began addressing Initiative C this year. During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Partner with school districts to ensure that every school in the County has a garden.

Background

In addition to the food donation program, LACFRI, aimed at preventing food waste from occurring, the Countywide School Gardening Program provides an opportunity for students and teachers to work together, learn how to grow their own food, learn how to recover food waste to produce compost, get exercise, and eat healthy. This instills pride in themselves, the community, and the environment. The gardens are an outside classroom where skills in math, science, art, health,

physical education, and social studies come together for a fun learning experience. With the skills learned and effort put into growing their own food, students will learn to value and prevent food from going to waste, which is at the top of the new waste management paradigm.

Accomplishments and Milestones for the Next Annual Reporting Period

By the end of the 2016 calendar year, the Vanguard Learning Center's School and Community Garden is expected to officially open. Located within the Compton Unified School District, the garden is an example of a successful Urban Greening Project. This project developed an under-utilized school property into a community garden with drought tolerant landscaping and shade trees, an outdoor learning center, and a system of bio-swales, which will not only improve air and water quality, but will also reduce greenhouse gas emissions.

The Countywide Smart Gardening and School Gardening Programs will continue to look for on-going and additional grant funding opportunities to support additional improvements and Urban Greening Projects throughout the County. At this time, two other projects are underway: Hillcrest Drive Elementary School located in the View Park community of Los Angeles and the Buford Seed Project located in the unincorporated community of Lennox.

Initiative E: Maximize Diversion of Household Hazardous Waste and Electronic Waste at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Work with cities and landfill operators to increase the number of permanent Household Hazardous Waste and Electronic Waste (HHW/E-Waste) collection centers where feasible.
 - Identify potential locations convenient to the community to increase participation and reduce the amount of toxic materials improperly disposed.

Accomplishments and Milestones for the Next Annual Reporting Period

Analyzed the existing HHW/E-Waste program schedule to determine if and where more events are needed. Two additional events will be added in 2017, and the 2017 schedule will be revised to more evenly distribute events in all Supervisorial Districts throughout the year. A public education and outreach campaign will be launched in 2017 and continue to 2018 to encourage participation in areas where attendance at temporary events are low.

Collection Statistics

- Approximately 11.8 million pounds of HHW/E-Waste are collected through HHW/E-Waste collection events annually:
 - Approximately 3.6 million pounds of HHW/E-Waste are collected through **1-day** collection events annually.
 - Approximately 700,000 pounds of HHW/E-Waste are collected through the **Antelope Valley Environmental Collection Center** annually.
 - Approximately 700,000 pounds of HHW/E-Waste are collected through **EDCO Environmental Collection Center** annually.
 - 6.8 million pounds of HHW/E-Waste are collected through the cities **S.A.F.E.** centers annually.

The increase in the total pounds collected this year can be attributed to an increase of resident participation as a result of continued outreach and education. In this report, we have itemized the various collection methods to reflect the pounds of HHW/E-Waste collected for each method.

The cost of the HHW/E-Waste program is substantial at approximately \$10 million annually. These costs include the routine operation of permanent centers; facilitation of temporary events including setup, collection, and disposal of the materials; and administrative functions.

1-Day Event Costs

- Average operational cost per pound - \$0.71
- Average operational cost per event - \$41,000
- Average number of households participating per event - 720
- Average cost per household per event - \$57

A major contributing factor for the decrease in cost of the 1-day events compared to last year is the PaintCare program. Residents are now able to dispose of their paint at retail stores throughout the County, which means less is being collected at the HHW/E-Waste events. In addition, the paint that is collected at the events is being diverted to the PaintCare program, so the County no longer has to pay the disposal costs.

Permanent Collection Center Costs

- Average operational cost per pound - \$0.53
- Average operational cost per event - \$22,000
- Average number of households participating per event - 588
- Average cost per household per event - \$37

The increase in cost of the permanent collection centers is due to the higher number of participating households.

Strategy 2: Measuring Results

Initiative B: Ensure Sustainable Funding and Alignment of Incentives with Program Goals at Regional/Countywide Level

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Evaluate and modify, if needed, existing revenue streams to mitigate funding lost from waste reduction efforts, and align incentives with waste reduction goals.
 - If revenues are projected to decline and programs cannot be realigned to mitigate this impact, identify options to augment revenue streams or accomplish the goals of the programs through other mechanisms in order to ensure adequate funding is available to carry out programs and policies.

Accomplishments and Milestones for the Next Annual Reporting Period

As evaluations are being conducted on the need, if any, to modify existing revenues, Public Works continues to seek grants and other funding opportunities. Below is a status of Public Works' grant applications during this reporting period.

Type of Grant Application/Program	Grantor/Type of Grant	Grant Amount	Award Status
Tire Recycling Grants	Cal Recycle	\$200,000	Awarded
HHW	CalRecycle	\$75,000	Awarded
Urban Greening Project (Torrance)	California Natural Resources Agency	\$140,000	Awarded
Beverage Container Recycling	CalRecycle	\$250,000	Pending

In addition, Public Works has also entered into an agreement with Bye Bye Mattress and Blue Marble Material to fund mattress collection events for the residents in the Antelope Valley where illegal dumping is prevalent.

Public Works staff continues to provide extensive feedback on legislative actions, regulatory changes, and incentives being proposed by CalRecycle through the State budget process. Public Works sent a letter to the Governor to support increasing Cap & Trade funding for waste diversion, including organic waste diversion, and for the production of bioenergy or biofuels. Public Works staff monitored AB 1063, a bill that would increase the State fee for operators of a disposal facility from \$1.40 to \$4.00 per ton, but the bill did not make it out of committee.

Strategy 3: Facilities and Infrastructure

Initiative A: Develop Conversion Technologies (CT) and Integrated Materials Recovery Facilities at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ **Newly Initiated Key Element:** Work with State and regional agencies, to streamline the permitting process for essential waste management facilities that are environmentally sound and technically feasible, including conversion technologies, MRFs, C&D processing facilities, transfer stations, etc., at the regional and State level.
- ❖ Continue to sponsor and support legislation to encourage the environmentally sound development of CTs and build a coalition of organizations to do so.
- ❖ Evaluate options to establish incentives in order to level the cost differential between CT facilities and landfills, or otherwise incentivize waste haulers to direct waste to such facilities.
- ❖ Increase awareness of the www.SoCalConversion.org website as a one-stop portal for information regarding local project development, local ordinances, permitting processes, and general information and resources related to CT development.

Background

Public Works is currently collaborating with Regional Planning to develop a recycling and solid waste ordinance, which will serve as a pathway to enhance development certainty and ensure public health and safety for siting and land use permitting of recycling and solid waste facilities. There have been successful CT projects around the world that use proven technologies to increase diversion and create renewable energy, fuels, and other useful products from waste materials that would otherwise end up in a landfill. CT facilities, especially anaerobic digestion (AD) facilities, will also be vital to comply with AB 1826, which requires businesses to recycle organics.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works continues to actively pursue and support the passage of legislation that encourages the siting of CT facilities. Public Works cleared a significant hurdle for the siting of biomass conversion facilities in the County by supporting Senate Bill 498 (2014), which added “non-recyclable byproduct or residue from composting,” to the definition of biomass as a way to encourage CT projects to use this feedstock.

Public Works presents at various waste conferences on our CT program and shares knowledge and resources with the goal of promoting CT. On July 29, 2016, Public Works hosted the 2016 Southern California Conversion Technology Conference (SCCTC). The conference will be discussed in further detail below.

Working with various cities in the County, Public Works has developed a list of potential CT sites in cities and CUCs. CT companies have also consulted with Public Works to discuss permitting of CT sites in the County. A number of CT projects within the County are in various stages of development, including:

- **Lancaster Landfill:** Waste Management (WM) developed a draft project concept for a CT facility and provided it Regional Planning and Public Works in September 2015. Subsequent meetings were held between the three parties to discuss the proposed project. WM has indicated that they have secured initial agreements to move forward with a full-scale composting operation, but no permitting or physical construction is expected within the immediate future.
- **Joint Water Pollution Control Plant (JWPCP):** The County Sanitation Districts continues to operate a CT demonstration project for co-digesting food waste at the District's JWPCP in the City of Carson.

WM recently increased the supply of food waste to JWPCP from 25 tons per day (tpd) to 40 tpd, due in part to the continued food waste collection pilot programs within the GDDs which began in October 2015. Starting in July 2016, collection for the County's commercial franchise food waste pilot program began. This program will provide insight on the challenges and costs associated with separate organic waste collection, which Public Works would review before implementing food waste collection throughout the unincorporated County areas. Understanding the challenges and cost associated with separate organic waste collection will assist the County in complying with AB 1826 requirements and securing a feedstock for current and potential CT projects. The pilot programs are expected to further increase the amount of food waste already being digested at the JWPCP and thus, increasing the production of biogas. The Sanitation Districts determined that it can be technically viable to expand the co-digestion project at JWPCP into a commercial-scale AD facility, if it is determined to be financially viable and after a consistent and clean food waste supply can be secured.

In addition, the Sanitation Districts partnered with Anaergia, a renewable energy and waste-to-resources company, to pilot a small-scale "press" at the Puente Hills MRF. The press is an advanced material separation technology that recovers organics from the waste stream by separating the dry inorganic fraction of the waste from the wet organic fraction. Public Works sent waste from County unincorporated areas including GDDs and commercial franchise accounts during the testing of the press. The press will also help determine organics recovery rates and contamination levels of different types of commercial and residential loads. A complete analysis and report of the results is currently being prepared by the Sanitation Districts.

- **Pitchess Detention Center (PDC):** Public Works, along with its technical consultant Alternative Resources Incorporated, is assisting LASD with preparing a draft Request for Qualifications and Proposals (RFQP) for an AD system at the PDC, a cluster of jail facilities in Castaic. The proposed \$20 million AD project would digest 40,000 tons per year (tpy) of

source-separated food and green waste from PDC, nearby County facilities, and the surrounding region to create biogas for energy generation and heat as well as compost for farming operations. However, additional consideration would need to be given to the availability and commitment of organic waste feedstock within the region. The proposed project would help reduce landfill disposal, thereby assisting County Departments and potentially businesses in complying with State legislation, including AB 1826, AB 341, and AB 32. The AD facility would be mutually beneficial to all parties involved and create useful products including a rich soil amendment for PDC farmland and biogas that could be used for low-carbon electricity, heat generation, and vehicle fuel.

- **Perris Materials Recovery Facility, CR&R Incorporated:** A local solid waste management company, CR&R Waste and Recycling Services, has completed construction of the first phase of this AD project in Riverside County. This project is designed to convert organic waste into renewable fuels for use by their waste collection vehicles. The facility will begin operating a 83,750 tpy digester in fall 2016. This facility has plans to scale-up in four equal phases and ultimately digest up to 335,000 tpy, which could allow the facility to process organic waste generated in unincorporated Los Angeles County. The facility is also expected to process waste from the City of Los Angeles starting in 2017. Construction of Phase II is approximately 50 percent complete and should be completed by the end of 2016.
- **White Paper: A Comparative Greenhouse Gas (GHG) Emissions Analysis** was commissioned by Public Works to compare the net GHG emissions of two scenarios. The baseline scenario is a transport and disposal of residuals from a mixed waste MRF in a modern sanitary landfill. The alternative scenario is processing the residuals at an Integrated MRF with CT. The Comparative Analysis shows the net environmental benefits of managing residual solid waste using AD and gasification at an integrated CT facility, as opposed to transporting it to a landfill for disposal. This analysis helps educate stakeholders of the role CT facilities can play to improve air quality and combat climate change. Public Works released the Comparative Analysis in February 2016, which has been mentioned in multiple waste management media articles.
- **SCCTC:** On July 29, 2016, Public Works hosted the SCCTC, which was attended by approximately 200 people. The goal of the conference was to educate attendees on the many benefits of an integrated approach with CTs. There was a very diverse audience including academia, local jurisdictions, regulators, elected officials, and community environmental justice groups that engaged in the discussion and expressed concerns, as well as a willingness to continue conversations and learn more about CTs and the role each stakeholder can play. Conference agenda topics included CTs and best practices throughout the world; environmental findings from CT studies and projects; permitting; and legislation. There were a total of 20 speakers including Assemblymember Mike Gatto. Because of the success of the 2016 Conference, Public Works plans to host more CT conferences in the future. Videos of the conference are posted on the www.SoCalConversion.org website.

The goal for the near future is to make significant advancement toward establishing commercial-scale CT facilities. Public Works will:

- Provide technical assistance to facilitate the CT project at PDC, including assistance with finalizing and releasing a RFQP.

- Secure new feedstock, especially organics, for CT facilities through the pilot food waste collection program in the GDDs and commercial franchise areas.
- Continue to educate stakeholders such as other jurisdictions, environmental groups, community organizations, residents, etc., about CTs and promote CT project development in the County by promoting the Comparative Analysis, hosting annual or biennial CT Conferences, and continuing to meet with technology providers and potential CT site owners.
- Continue to conduct stakeholder outreach to promote CT project development, including hosting CT conferences for Southern California on an annual or biennial basis.
- Continue to pursue legislation facilitating CT project permitting, financing, and development in the County and Statewide.
- Continue to collaborate with regional agencies to develop a streamlined permitting process for CT facilities in the County.

Initiative B: Organic Processing Infrastructure at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Evaluate opportunities to encourage the development of regional organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations.

Accomplishments and Milestones for the Next Annual Reporting Period

An analysis was performed to determine if the County's 15-year needs can be met utilizing the existing organic waste processing capacity. The plan discusses strategies that can be adopted to meet any organic waste capacity needs. Additionally, markets for compost and other organic residuals will be identified, along with an analysis of options for mechanisms that jurisdictions may implement to ensure that commercial organic waste is collected and recycled in the most efficient and economical way. The anticipated projected completion date for the organics plan is December 2016.

Additionally, Public Works initiated a partnership with the County Sanitation Districts for a commercial organics collection pilot project. Public Works started a food waste collection pilot program which began in October 2015. Currently businesses from within the Belvedere and Firestone GDDs and Avocado Heights and Rowland Heights CUCs are participating in the program. The pilot collection program delivers food waste to the Puente Hills MRF and is being used to expand the Sanitation Districts' co-digestion operation in the City of Carson from 25 tpd to 40 tpd.

The Sanitation Districts determined that it is technically viable to expand the co-digestion project in Carson into a commercial-scale AD facility. To further increase the amount of food waste being digested at the Carson plant and increase the production of biogas, in April 2016, the food waste pilot collection program was expanded to include the County's commercial franchise; and as of July 2016, an additional 29 tons of organic waste was delivered to the MRF. This program will provide insight on the challenges and costs associated with separate organic waste collection, which will be taken into consideration as organics collection programs are implemented throughout the unincorporated County areas.

Initiative C: Local Green Business & Market Development at a Regional/Countywide level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Work with partner cities in the Recycling Market Development Zone (RMDZ) to encourage new green businesses and remanufacturing facilities to locate in the County.
- ❖ Continue to seek opportunities to expand the RMDZ to include additional interested cities in the County.

Accomplishments and Milestones for the Next Annual Reporting Period

Since the inception of the County RMDZ Zone in 1993, 190 loans have been granted to qualifying businesses. From October 2015 to October 2016, RMDZ met with five new companies to discuss possible business assistance. Out of the five companies, one company qualified for an RMDZ loan but did not pursue applying for the loan. The remaining four companies did not qualify but were provided with other business assistance resources. In 2015, U.S. Corrugated of Los Angeles, Inc., a manufacturer of cardboard boxes from recycled paper, applied for a loan in order to purchase equipment. The loan in the amount of \$2 million was disbursed in December 2015. In addition to purchasing new equipment, the company also created 80 new jobs.

The County RMDZ is exploring the possibility of partnering with the City of Los Angeles RMDZ to pool Zone Incentive Funds to further expand outreach and education for the RMDZ program. An idea being explored is to jointly host an event to educate manufacturing businesses about the RMDZ program and other programs available to them.

In August 2016, the RMDZ Administrator attended the California Financing Coordinating Committee event in Alhambra. The event was held to educate the public and local businesses about financial and technical assistance available from State and Federal agencies. The event provided the RMDZ Administrator an opportunity to meet local businesses and provide information about the program.

Initiative D: Resource Recovery Centers and “Re-stores” at a Regional/Countywide Level

The Working Group began addressing Initiative D this year. During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Partner with the County Sanitation Districts and municipalities in the County to facilitate the development of Resource Recovery Centers, as described in the Priority Issues section, at all publically owned transfer stations and landfills.

Background

A portion of the materials disposed are from self-haul customers at landfills and transfer stations. Resource Recovery Parks or Resource Recovery Centers are places where materials can be dropped off for donation or buyback. These facilities provide additional recycling opportunities for self-hauled loads and can make a landfill or transfer station more sustainable by diversifying revenue, conserving capacity, and extending the useful life of those facilities.

Accomplishments and Milestones for the Next Annual Reporting Period

The Working Group has begun discussions with stakeholders, such as cities on options to develop resource recovery centers to address the need for diverting useful materials from going to the landfill.

Initiative E: Emergency Management/Debris Management Plan at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Update County's Debris Management Plan to maximize diversion of materials following emergencies and disasters.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works worked with other County Departments, including the CEO, Office of Emergency Management and agencies to develop an Operational Area Mass Debris Management Plan (OA MDMP) to identify roles and mechanisms to collect, stockpile, dispose, and recycle debris to the extent feasible following an emergency or disaster. The OA MDMP also serves as a resource guide to support the removal process for the debris and to ensure that debris collection, disposal, and recycling efforts are conducted in an efficient, economical, and environmentally beneficial manner while considering the safety of the public and personnel. The OA MDMP is consistent with the existing policies and guidance provided by the County, State, and Federal Emergency Management Agencies for removal and management of disaster-related debris.

The OA MDMP, which was developed by a consultant, has been completed and will serve as a resource guide for the County and its 88 cities to establish a collaborative and coordinated mass debris management structure during a major disaster event that impacts the County.

Strategy 4: Outreach and Education

Initiative A: Communication Action Plan at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Brand the campaign slogan (e.g., "Don't Waste Your Waste") and encourage cities to adopt and include in their websites as a consistent slogan.
- ❖ Establish partnership to build on and promote other sustainability programs, and partner with jurisdictions or agencies, as appropriate, to leverage resources and amplify the message of sustainability.

Accomplishments and Milestones for the Next Annual Reporting Period

During this reporting year, Public Works had the opportunity to act as a Juror for the Land Art Generator Initiative (LAGI) 2016, an international design competition. A benefit from participating as a Juror for LAGI 2016 was the opportunity to begin branding the Roadmap logo/messaging not just locally but internationally. The Roadmap logo was used in marketing material and on the LAGI 2016 website.

The tagline, Sustainable is Attainable, and the Roadmap logo are now being included in all outreach material developed by the Outreach and Education Subcommittee. The logo is also being used for other sustainability programs developed outside of the subcommittee to continue to increase visibility of the logo and expand its branding. The logo is being used on program material, promotional giveaways, and equipment, such as County Library Battery Recycling Program receptacles. The more exposure the Roadmap logo and slogan get, the more the Roadmap's message is understood and associated with sustainable practices.

Through the regular Roadmap meetings, we continue to identify programs and resources that can be incorporated or assist in developing outreach material or messaging to help meet the diversion goals set in the Roadmap. Some of those resources are the new members of the subcommittees as they include City and nonprofit organization representatives that bring different perspectives and experiences to the table.

Public Works is developing the scope of work to issue an RFP for a technical consultant and stakeholder engagement contract. Current contracts are being reviewed to ensure the new contract will not duplicate their efforts but enhance them. The draft language will include a creative strategist component with guidance from the Arts Commission. The work of the County's abundant creative sector, which consists of more than 3,600 nonprofit arts organizations and 228,500 artists, can be used to advance the strategies and initiatives of the Roadmap. The RFP will also include stakeholder engagement tasks for the strategies and initiatives for each of the Focus Areas of the Roadmap. Due to change of scope and additional resources needed, the RFP will now be released in 2017.

In an effort to educate residents on the importance of recycling beverage containers, the County and the LA Dodgers teamed up to launch a public education campaign, "Strike Out Landfill Waste." Out of the 21 billion beverage containers sold in California each year, 3 billion containers eligible for California Redemption Value (CRV) still end up in landfills. The campaign message emphasized the importance of recycling beverage containers to divert landfill waste and to highlight that the 3 billion containers that are not recycled equates to \$100 million of eligible CRV funds in the trash - literally. The multimedia campaign included on-air endorsements, visibility at Dodger games, freeway billboards, messaging at convenient stores, and community activation among little league teams that played baseball at Dodger Dreamfields across the County. Not only were thousands of pounds of beverage containers recycled, but nearly \$10,000 in California redemption value money was earned by and paid back to participants, five and ten cents at a time. This campaign effort was awarded the 2016 Green Leadership Award.

County Operations

Strategy 1: Quality Programs and Services

Initiative A: Institutionalize Waste Prevention and Source Reduction at County Operations

The Working Group began addressing Initiative A this year. During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Provide technical assistance, training, financing, and other resources for County Departments.
- ❖ Evaluate County purchasing practices:
 - Review and make enhancements to the County's Green Purchasing Policy and other similar policies.
- ❖ Explore and, if feasible, develop and implement more aggressive reuse programs.
 - Consider policies to discourage use of single-use water bottles in favor of reusable water bottles; incorporate hydration stations at County facilities to encourage employees and visitors to bring reusable water containers.
- ❖ Newly Added Roadmap Element: Identification of waste reduction opportunities at County facilities and develop Resource Management Plans to assist these facilities to achieve sustainable operations.

Background

Public Works began implementation of the Commercial and Institutional Recycling Program (CIRP) by executing a contract with a consultant to conduct site visits to County facilities located throughout the County in order to identify waste reduction opportunities and develop resource management plans to assist facilities in utilizing the latest information and technology for increasing efficiency, cost-effectiveness, and productivity of sustainable operations.

Since the inception of the County Department Recycling Program (CDRP) in 1990, the Board has instituted a number of policies related to County purchasing practices. These policies included requirements for purchasing recycled-content and remanufactured products. In 2007, ISD established the Purchase of Environmentally Preferable Products (Green Purchasing) Policy, which established objectives for the purchase of products that conserve natural resources, minimize environmental impacts, eliminate toxics, and reduce materials sent to landfills.

Under this Purchasing Policy, easy to adopt purchasing categories, (e.g., paper, and cleaning supplies), were implemented and a pricing advantage for green products was put in place. The County maintains central purchasing agreements with a catalogue of environmentally friendly and energy efficient products. Existing databases were modified for the easy identification of green products.

Single-use water bottles are used throughout the world. Although these items are frequently recycled, particularly in states like California with the CRV, many of them continue to be part of the litter stream which contributes to pollution to our environment. Public Works prepared an internal memo for a pilot program at its Headquarters facility for the installation of hydration stations to replace traditional water fountains in a few select locations. The purpose of the hydration stations is to encourage employees and visitors to the building to use reusable water containers to reduce the use of single-use water bottles. The equipment includes a filter, chiller, and counter for the number of single-use water bottles saved.

Accomplishments and Milestones for the Next Annual Reporting Period

The CIRP consultant has begun preparing Resource Management Plans for each County facility following site visits. These plans will provide recommendations for increased diversion, which may include changes in operations and services, additional equipment, and other ways to divert more materials from being landfilled while potentially reducing costs, energy, and resource consumption. Public Works anticipates the CIRP contractor will visit up to 20 County facilities throughout the County, including some in the CUCs, during the next reporting period as well as visit up to three large venues in the CUCs.

The CIRP contractor has begun preparing a zero-waste event guide which can be used by County Departments as well as by other entities conducting events. The purpose of the guide is to provide a simple checklist of activities and equipment necessary to prepare for and conduct a zero-waste event. Once completed, this guide will be shared with the entire Roadmap Working Group as well as be made available on the Roadmap website for use by external stakeholders.

ISD has organized a “Green Product Workgroup” which consists of representatives from Public Health, Probation, LASD, and Public Works to evaluate the County’s existing Green Product policies and determine which policies should be updated, and identify new policies that should be developed. These efforts are discussed at Roadmap meetings.

As of September, one hydration station has been installed at Public Works Headquarters and over 11,000 water bottles have effectively been reduced according to the counter on the hydration station since its installation in May 2016. Public Works hopes to install three additional units by the end of the year in high traffic areas that will be accessible to many employees and visitors. Based on the success of the hydration stations, Public Works may recommend these be installed at additional County facilities.

Initiative C: Make Sustainability Easy and Discourage "Trashing" at County Facilities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Expand the County Recycling Coordinator program and develop standardized reuse and recycling processes.

Accomplishments and Milestones for the Next Annual Reporting Period

At the request of Public Works, the CEO sent a letter to each County Department requesting they confirm or identify a Department Recycling Coordinator (DRC). The letter included a brief list of duties for the coordinator as well as a survey for each coordinator to complete in order to assess where improvements to the CDRP can be made. To date, 16 County Departments completed the survey. Public Works has been reaching out to the DRCs of the Departments where facility site visits through the CIRP contract will be conducted.

Departments were included in the review process of outreach materials such as sustainable practices and using reusable food ware flyers through the Working Group.

Public Works attended a Surplus Program Coordinator meeting on October 28, 2015, and presented information on the CDRP as well as discussed the LACoMAX program and how this may be incorporated into the Surplus Program. Public Works in coordination with ISD has begun preparation of a Board Letter, which is expected to be completed in the next year to update the Surplus Program to make available to the public through the LACoMAX program any surplus County materials not sold or donated to Board-approved charitable organizations.

ISD has released an amendment to the existing Facility Ancillary Services Master Agreement waste hauling contract for County Departments which includes requirements for providing organics waste recycling services to County Departments. It is expected that this amended contract will provide services to County Departments until a new hauling contract is solicited. Public Works is currently working with ISD to determine the appropriate method for soliciting a new waste hauling contract, which will meet the recycling and waste disposal needs of all County Departments.

Initiative D: Recover Organic, including Food Waste, to the Highest and Best Uses at County Facilities

The Working Group began addressing Initiative D this year. During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Explore and implement, if feasible and funded by the Board through a department's annual budget appropriations, food waste/organics collection, food drops, and composting programs at specific County facilities.
 - Identify largest generators of food and organic waste among County facilities.
 - Create a pilot program to be a model program that would be implemented at other County facilities.

Background

According to recent waste characterization studies, organic material is the largest component in the disposed waste stream. Organic material decomposes in landfills which generates methane gas, a potent greenhouse gas that contributes to global warming and other adverse climate changes. As discussed in previous sections, businesses including County facilities, must comply with AB 1826 according to the amount of organic waste they generate.

Public Works utilized the current waste hauling contract information provided by ISD to estimate how much organic waste County facilities generated. Factors used in the estimates considered facilities that may have cafeterias or housing, such as at hospitals, jails, and probation facilities where they prepare food or have large landscape areas, such as parks.

The current contract for Public Works Headquarters cafeteria included a section on Removal of Debris/Garbage, Kitchen Compostable Waste, and Cardboard. In order to lead by example, Public Works created a pilot food waste program at its Headquarters facility. The purpose of this pilot program is to reduce the amount of organic material that is disposed as well as to demonstrate to employees and visitors the ease of home composting and potentially at other County facilities.

Accomplishments and Milestones for Next Annual Reporting Period

Public Works compiled a list of County facilities expected to need to comply with the first tier of AB 1826 generating more than 8 cubic yards of unwanted organic material per week. A letter was sent by Public Works to each County Department informing them of the requirements of AB 1826 and also included the Tier 1 list of facilities, which will need to sign up for organics collection services in 2016. Public Works is in the process of identifying the list of Tier 2 facilities, those that generate more than 4 cubic yards of organic material, which will need organics processing services beginning on January 1, 2017.

In 2016 Public Works completed construction of its demonstration Annex Garden. Public Works Headquarters' cafeteria began implementation of the pilot food composting program in late 2015. Cafeteria staff separately collect pre-consumer food waste and store it in designated bins. The food waste is weighed, and then fed weekly to 4 individual vermicomposting bins (worm bins). Public Works' Smart Gardening contractor services the bins, harvests the produced compost and liquid, and applies the compost and liquid to the demonstration Annex Garden. There is a large sign above the worm bins to educate employees and visitors about the composting process and its benefits.

Initiative E: Maximize Diversion of Construction and Demolition Debris at County Facilities

The Working Group began addressing Initiative E this year. During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Revise the Recycling and Reuse Ordinance to:
 - Include standards for County facilities and projects.
- ❖ Newly Added Roadmap Element: Create a pilot program to serve as a model that would be implemented at other County facilities.

Background

Currently, County projects are exempted from the Construction and Demolition (C&D) Recycling and Reuse Ordinance. Under the current County specifications for capital projects, the contractor is to submit a Debris Recycling Summary on a monthly basis. In most cases, the contractor does not comply with this requirement and submits it after the project is completed. There are no

penalties for noncompliance. We are currently working on enhancing the County specifications for capital projects to include submitting the required forms on time and subjecting the project to liquidated damages for not meeting the diversion rate for debris.

Accomplishments and Milestones for Next Annual Reporting Period

The draft revision of the C&D Ordinance is being reviewed by affected divisions within Public Works. We anticipate all new capital projects will be subject to the new specifications once it becomes incorporated into the bid package by the next annual reporting period.

Strategy 2: Measuring Results

Initiative A: Waste Sector Assessment at County Facilities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Develop a methodology to conduct waste generation and disposal surveys at County operations.

Accomplishments and Milestones for the Next Annual Reporting Period

To determine which County facilities are required to comply with AB 341 and AB 1826, it is necessary to know which County facilities are generating large amounts of solid waste and organic waste. Public Works and ISD worked together on a facility survey that included questions on current service levels for County facilities, estimates of the amount of organics in the waste stream, current recycling efforts, and opportunities for additional diversion.

Waste Assessments were conducted at Health Services' Administrative offices, LASD's Twin Towers Facility, and Public Works Headquarters facility. Waste assessments at these facilities provided an in depth look at the waste streams and recommendations that each facility can implement to reduce waste. Brief waste assessments were also conducted at the County Museum of Arts and LAC+USC Medical Center. A preliminary list of County facilities has been forwarded to the CIRP contractor to conduct waste assessment studies at about 20 facilities over the next year. The list is constantly being updated in consideration of inquiries received from County Departments.

Measurement

The department facility survey form was sent to each County Department's procurement manager. More than 260 County facilities responded to the survey. The results were compiled by ISD and provided to Public Works for analysis and to aid in determining when County facilities would likely need to begin their compliance with AB 1826.

Initiative B: Evaluate and Measure the Success of Existing Programs and Consider New Programs at County Facilities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Create a framework to monitor and measure the success of waste reduction programs targeted at County facilities.
- ❖ Newly Initiated Key Element: Establish benchmarks tied to waste reduction goals – disposal, recycling, and other diversion.
- ❖ Newly Added Roadmap Element: Evaluate waste reduction practices for County employees through individual employee survey and to assess the reporting period performance of the DRCs.

Background

Public Works Headquarters Cafeteria is participating in the US Environmental Protection Agency's Food Recovery Challenge, a voluntary program that tracks current food waste and sets goals for future years. Public Works had to input baseline data for 2015 and set diversion goals for 2016. Many of the goals for 2016 include working with cafeteria staff to measure the amounts of food waste diverted through various practices. By the end of 2016 there should be enough baseline data to set specific numerical goals for diversion for 2017.

Accomplishments and Milestones for the Next Annual Reporting Period

To determine the effectiveness of these recycling programs and gauge each County Department's participation in recycling efforts, the Working Group finalized and distributed a Facility Survey to each County Department. This survey provided feedback about current recycling efforts and assisted in determining the need for additional education and outreach to County Departments about existing County recycling policies. It will also help identify opportunities to achieve additional waste diversion through new policies focused on materials not currently being recycled, such as food waste and other materials.

An employee survey will also be initiated over the next year to assess waste reduction practices of individual employees, and to assess the performance of the County's DRC Program.

Another tool in discussion is a database to collect diversion data from County facilities for materials, such as paper, batteries, toner, etc. The system would initially allow vendors to login and input weight information and dates of pick up. A pilot will be conducted by Public Works prior to offering access to other County Departments. The long-term goal is to use this system to generate various types of reports, such as diversion, number of requests, and also assist with reviewing invoices.

Strategy 3: Facilities and Infrastructure

Initiative B: Organics Processing Infrastructure at County Facilities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Establish guidelines and enable County facilities that are large-quantity food waste generators to do their own composting where feasible.
 - Identify at least two micro-composter pilot project opportunities, including required funding, at County facilities that would foster interdepartmental collaboration and help meet the solid waste management needs of one or more large County Departments.
- ❖ Newly Initiated Key Element: Investigate sites along with cost and permitting details to construct a County anaerobic digestion facility.

Background

Additional in-County waste conversion capacity is needed to process organic waste diverted pursuant to AB 1826. Public Works established numerical milestones to increase the current in-County CT capacity from 65 tpd to 3,000 tpd of conversion capacity by 2035. The next upcoming milestone is to establish 200 tpd in-County waste conversion capacity by 2020. In order to achieve these milestones, Public Works has been collaborating with site owners, project developers, and regional permitting agencies, as well as conducting feasibility and economic analyses, in order to facilitate the development of potential CT projects in the County.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works continues to implement a pilot food waste reduction and recycling program in partnership with its onsite cafeteria. On average, 7 percent of the pre-consumer food waste generated in the cafeteria each month is diverted through food donation or is used in on-site vermicomposting (worm composting) bins.

Public Works and LASD are working together to develop a commercial scale composting operation and an anaerobic digester at PDC, a jail facility in Castaic. To make the project economically feasible, it is anticipated the total project capacity would be at least 40,000 tpy. PDC would provide the 1,000 tpy of organic waste feedstock that are generated on-site. The additional feedstock would be comprised of organic waste generated at surrounding County facilities and the local region. LASD's Twin Towers Correctional Facility and Men's Central Jail generates approximately 27,000 tpy of organic waste and could potentially supply a large portion of the project feedstock. Public Works is working with Alternative Resources, Inc., to finalize and release an RFQP for this project.

Strategy 4: Outreach and Education

Initiative B: Leadership in Sustainability at County Facilities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Work with County Departments to implement sustainable practices, where fiscally feasible, based on feedback from waste surveys.

Accomplishments and Milestones for the Next Annual Reporting Period

Through the CEO, a memo was sent to each County Department requesting that they identify their DRC. The DRCs completed surveys which are currently being reviewed and evaluated to determine the type of resources the DRCs will need to be able to meet their responsibilities.

A meeting with DRCs will be held later this year to provide participants with resources and education on various County programs, such as the Countywide Surplus Program, and County policies related to recycling and sustainability.

Through DRCs, Public Works will educate all County staff on what they can do to help meet the Roadmap's diversion goals. A sustainability tips flyer was recently approved and will be distributed to County staff along with other fact sheets on specific recycling programs. Additionally, a Bring Your Own (BYO) flyer is currently being developed to encourage County staff to BYO mug/cup, plate, and utensils to use at work.

RELEVANT SOLID WASTE MANAGEMENT STATUS REPORTS

The Board directed that the Roadmap annual report serve to consolidate other solid waste management status reports including the Conversion Technologies in Los Angeles County Six-Month Status Update and the Status Report on Removal of Elsmere Canyon Landfill from the Los Angeles County Countywide Siting Element. These reports are included below:

Conversion Technologies Update

On January 27, 2015, a Board motion instructed Public Works to provide semi-annual reports that include clear benchmarks for measuring the actual progress being made towards establishing viable CT projects, including the amount of waste to be diverted, financial viability, project status, and significant impediments that will allow the Board to meaningfully assess the efficacy of CTs in meeting the County's goal of a sustainable waste management future. On August 17, 2016, Public Works submitted the third semi-annual report to the Board.

CTs are critical to reducing our reliance on landfills and recovering energy, fuels, and other products from waste. The report notes that CT facilities are being successfully developed. After a small number of facilities become operational and demonstrate their viability, the market for CT in the County will quickly expand. The report noted that significant progress has been made in the development of CT projects in the County, including the completion of the County Sanitation Districts AD co-digestion at the Carson facility, and completion of the first phase of the AD facility in Perris.

Public Works will continue to facilitate the development of CTs in the County by working with stakeholders to identify barriers and creating solutions to those barriers as described in this report. All future CT updates to the Board will be within the Roadmap annual report.

Elsmere Canyon Landfill Status Report

On September 30, 2003, the Board instructed Public Works to take the necessary steps to remove Elsmere Canyon from the Los Angeles County Countywide Siting Element's list of future landfill sites and to report back every 60 days. Based on our August 23, 2010, status report to the Board, the reporting frequency was changed from every 60 days to semiannually. On October 21, 2014, the Board directed Public Works to consolidate the Status Report on the Removal of Elsmere Canyon Landfill from the Los Angeles County Countywide Siting Element and submit it with the Roadmap annual report.

The Siting Element is a long-term solid waste planning and policy document that describes how the County and the cities within the County plan to manage the disposal of their solid waste for a 15-year planning period as required by AB 939. AB 939 also requires the Siting Element to establish goals and policies for the proper planning and siting of landfills, inert waste landfills, waste-to-energy facilities, and alternatives to landfill technologies, such as CTs on a Countywide basis.

Since our last report, Public Works has updated the Preliminary Draft Siting Element, which was previously reviewed, and considered by the Los Angeles County Solid Waste Management Committee/Integrated Waste Management Task Force in November 2012. The document has

been revised to update the base year of 2014, including disposal projections covering the planning period beginning 2014 through 2029, and to include the impacts of current legislation, such as mandatory commercial recycling (AB 341), diversion of organic waste from landfills through organics recycling programs (AB 1826), and prohibition on local disposal limits (AB 845) on the Countywide diversion and disposal quantities.

In February 2016, Public Works resubmitted the document to the Task Force for their review. The Task Force considered the revised Preliminary Draft Siting Element in April 2016. The next step entails preparation of the environmental document prior to releasing the document to the public for review. The revised Siting Element and its environmental documents will undergo additional reviews by the public in compliance with statutory and regulatory requirements, including approvals by cities, the Board, and CalRecycle.

APPENDICES

Appendix A - List of Abbreviations

AB	Assembly Bill
AD	Anaerobic Digestion
BYO	Bring Your Own
BCR	Beverage Container Recycling
CEO	Chief Executive Office
C&D	Construction and Demolition
CalRecycle	California Department of Resources and Recovery
CDRP	County Department Recycling Program
CUCs	County Unincorporated Communities
CIRP	Commercial and Institutional Recycling Program
CRV	California Refund Value
CT	Conversion Technology
DRCs	Department Recycling Coordinators
EPR	Extended Producer Responsibility
GDD	Garbage Disposal District
GHG	Greenhouse Gas
HHW/E-Waste	Household Hazardous Waste and Electronic Waste
ISD	Internal Services Department
JWPCP	Joint Water Pollution Control Plant
LACFRI	Los Angeles County Food Recovery Initiative
LACoMAX	Los Angeles County Materials Exchange program
LAGI	Land Art Generator Initiative
LASD	Los Angeles County Sheriff's Department
MRF	Materials Recovery Facility
OA MDMP	Operational Area Mass Debris Management Plan
OEM	Office of Emergency Management
PDC	Pitchess Detention Center
ppd	pounds per person per day
RFP	Request for Proposals
RFQP	Request for Qualifications and Proposals
RMDZ	Recycling Market Development Zone
Roadmap	Roadmap to a Sustainable Waste Management Future
SCCTC	Southern California Conversion Technology Conference
tpd	tons per day
tpy	tons per year
WM	Waste Management